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has deluged our community for so long, and as such we give them the first mention in our annual retrospect.

THE INFLUENZA EPIDEMIC

with which the year opened was, perhaps, the best friend the drug trade in this country had during the whole year. For a month or more nearly the whole population "ran howling to their gods," which for the moment took the form of physic bottles, and at one time there was even a little recovery in the price of quinine in consequence.

It is difficult now to remember that in January influenza and its treatment occupied the same position in our periodical literature which Koch's cure and Mr. Parnell have divided in December. A great many pharmacists were bitten by the germs; but on the whole the invader was parted with by all branches of the medical profession with unexpressed but not insincere feelings of gratitude and esteem.

THE PHARMACY ACT, 1875 (IRELAND), AMENDMENT ACT, 1890.

The chemists and druggists of Ireland have secured a notable advantage in the Act which was passed in August last. They had shown their power in 1888, when they succeeded in their opposition to the Bill which the Pharmaceutical Society of Ireland had introduced, and had run through the House of Lords. The chemists and druggists had neglected to follow up their advantage in 1889 as they should have done, and though urged by the ex-President of the Society to take steps towards legislation early this year, they showed no sign of activity until the Council of the Pharmaceutical Society stirred them into movement by commencing a series of actions in Belfast in April, 1890. The Society got judgment against certain druggists, not only for compounding medical prescriptions, which was, if proved, undoubtedly an infringement of the law, but also for simply selling poisons, which was not so clearly a legal offence. The druggists demanded an appeal, but they did not very earnestly press this. Within a few days of the magisterial conviction, however, they had induced Mr. Johnston and Mr. Sexton, representatives of the two Irish parties, to bring a Bill before the House of Commons, similar in general effect to that which had been ultimately agreed upon after their victory in 1888. The Bill was read a second time in the House of Commons on May 21, got into committee on June 11, passed through committee on June 20, was reported on July 2, and read a third time on July 3. An opposition, which, however, was little more than formal, was offered on behalf of the Pharmaceutical Society of Ireland in the House of Commons by Dr. Fitzgerald, but a more serious attempt to modify its provisions was made in the House of Lords by the Marquis of Waterford. This nobleman succeeded in introducing a provision in the Bill imposing an examination on all persons who, having gone into business between 1875 and the date of the passing of the Bill, wished to be registered as druggists. The examination was, however, made independent of the Pharmaceutical Society. The Bill was read a third time in the House of Lords on August 5, and received the Royal Assent on August 18. The Act, as passed, differed from the Bill agreed upon by the representatives of both sides in 1888 in requiring the examination already referred to, and in the abandonment of the clause imposing an annual fee payable to the Pharmaceutical Society of Ireland by all persons in business for themselves. It recognises and perpetuates a grade of druggists with the right to sell poisons, but it does not give them the right to compound medical prescriptions. It gives the title of chemist and druggist to persons who can

prove they were in business as such before 1875, while those who have gone into business since can take the title "registered druggist" on passing a certain modified examination. The same title is attainable, after examination, by persons who have been four years with a registered druggist, pharmaceutical chemist, or apothecary keeping open shop. All can proceed to the higher examination of "pharmaceutical chemist" under certain restrictions, and all can associate themselves, if they so please, with the Pharmaceutical Society of Ireland, and associate druggists have the right to elect seven of their number to the Council of that body. There is a permissive clause authorising an examination for assistants.

ETHER SCHEDULED AS A POISON IN IRELAND.

In consequence of serious reports of the consumption of large quantities of duty-free methylated ether being consumed as an intoxicant in some parts of Ireland, an order was issued by the Lord Lieutenant in Council, on November 30, adding ether to the schedule of substances in the Sale of Poisons Act.

PHARMACY ACT AMENDMENT BILLS.

Two drafts of a Pharmacy Act Amendment Bill have been issued from Bloomsbury Square this year. The first was agreed to at the February meeting of the Pharmaceutical Council, and was intended to be submitted to the Parliament then just assembling. At the March meeting of the Council its abandonment was notified, ostensibly in consequence of the opposition threatened from some members of the Society, who objected to the membership being too freely offered to the more recently qualified chemists and druggists. In 1887, 1888, and 1889 Bills had been drafted and submitted to Parliament asking only for powers enabling the Society to require from candidates for their certificate evidence of a certain course of training in officially recognised schools. This object, which has been so patiently and persistently pursued by a section of the Pharmaceutical Council, had never much attraction for chemists generally, and was beginning to be regarded as wearisome. This year it was thought politic to make the Bill more comprehensive. Hence the membership clause, and another providing that medical prescriptions should be compounded by qualified men only, medical practitioners' rights being also duly recognised, thus aiming to obtain for British pharmacists the rights enjoyed by their brethren in Ireland.

That Bill, as we said, was abandoned, but a new one, containing the clauses already mentioned, and one, besides, to provide for all chemists exemption from jury service, was produced by the next Council at their October meeting. The President, who has five distinct legislative failures on his record, has set himself energetically to work up trade enthusiasm for this latest effort of his genius; we have reported numerous meetings of chemists which he has addressed in various parts of London and in the chief cities of the provinces, but he has so far refused to accede to the almost universal desire that Parliament shall be also asked in a definite manner to stop the indefensible practice of the evasion of the qualification provisions of the Pharmacy Act by the simple expedient of registration under the Companies Acts. It has been made quite clear by the meetings which have been held, and by the correspondence on the subject which has been published in this journal, that the addition of a clause to this intent would ensure the united effort of the whole trade in support of the proposed Bill—a result which certainly cannot be looked for if the majority of the Pharmaceutical Council insist upon proceeding on their own lines, without making

the smallest concession to the thousands of their fellow chemists who are as much concerned with legislation for the trade as they can be.

COMPANY PHARMACY.

We have recorded during the year the registration of twenty limited companies, representing at least 140 persons, formed for the express purpose of carrying on the business of chemist and druggist. These companies comprise generally, but not always, one or two registered chemists and druggists among their subscribers, but with or without that circumstance they have acquired by registration the right to entitle themselves "chemists and druggists," and to keep open shop for the sale of poisons. The Pharmaceutical Council decline to recognise this as a grievance worth stating in the Bill they are proposing to bring before Parliament.

PHARMACY LAW CASES.

The case of the Pharmaceutical Society *v.* Wheeldon, which had been heard in the Wandsworth County Court this time last year, was brought before the High Court as an appeal by the defendant early in February, and judgment was given in support of the County Court judge's opinion on the 29th of April by Mr. Justice Hawkins for himself and Mr. Baron Pollock. This judgment, which takes a place in the front rank of the judicial interpretations of the Pharmacy Act, established the conclusion that the Pharmacy Act requires that all retail sales of poisons as defined thereby must be conducted under the immediate supervision of a person qualified under its provisions. This journal, by encouraging the appeal, may claim a principal share in bringing that question to a final settlement.

Consequent on this decision fines have been recovered from the unqualified assistants of some Birmingham stores, and from the unqualified assistant of a Glasgow doctor, who, it was proved, had sold or dispensed poisons without the immediate supervision of a qualified chemist and druggist.

Another case of less importance opened another question of some interest in regard to the sale of patent medicines containing poisons. A City chemist was prosecuted at the Mansion House by the Treasury on a charge of having sold a cough-mixture which, it was admitted, contained some morphia, but which was not labelled "poison." The chemist was fined. The most noticeable feature in this case was, however, the statement made by the prosecuting solicitor, representing, we presume, the opinion of the Treasury authorities, that the exemption of patent medicines from the first fifteen sections of the Act could only be applied to medicines actually patented, and would not cover all those articles commonly referred to as such. This view had been previously expressed by Mr. Alpe in his "Handy-book of Medicine-stamp Duty," and by Mr. Braxton Hicks, the coroner. It means, if it be correct, that unqualified persons are not at liberty to sell such proprietary medicines as can be classed as poisons or preparations of poisons within the meaning of the Pharmacy Act.

THE ELECTION OF THE PHARMACEUTICAL COUNCIL

this year was notable for the reason that, in a more than usually organised manner, an attempt was made by unsatisfied critics of the policy of the last Council to capture seats enough to enable the tendency of the Council's action to be directed more than had hitherto been the case towards "trade interests." There was a distinct want of definiteness about the programme of the revolutionists, and there turned out to be, too, a considerable lack of harmony among the candidates put forward individually. The result proved that the Society endorsed the policy of the men who were then

governing it—the President, Mr. Carteighe, securing a clear majority of all the members to vote for him. That vote was probably unfortunate for the Society, showing, as it did, to the outsiders who are preached at with so much persistence that there can be no reasonable prospect, under present conditions, of influencing the Pharmaceutical Society towards a more useful policy than that which it continues to pursue—of simply posing as one of the learned bodies of the metropolis.

FRENCH PHARMACY LAW.

Early in the year M. Lockroy introduced a new Pharmacy Bill into the French Chamber of Deputies, but not much progress has been made. M. Lockroy proposed to retain the two classes of *pharmaciens*, but to make the herb trade free. His Bill defined rigorously the respective rights of pharmacists and physicians, and strictly prohibited any union of the two professions, or any understanding between them. This and other measures were submitted to a commission, and a report and new Bill were submitted at the end of October. To the proposals of M. Lockroy, others demanding that the formula for every medicinal compound sold as a speciality should be open to the inspection of every pharmacist, and abolishing altogether the second-class pharmacist, were added. It is also proposed to arrange for a more thorough system of inspection.

TRADE-MARK ACTIONS.

We reported a case on March 1 (*Hart v. Colley*), in which Mr. Justice North ruled that the registration of a trade-mark under one class did not give the proprietor of the mark power to prevent the use of the same mark for goods in another class, although, as established in that case, it was possible to obtain an injunction independent of the trade-mark in respect of the sale of an imitation too similar to the goods manufactured by the plaintiff. In an appeal of Messrs. W. Meyerstein & Co. from the decision of the Comptroller, Mr. Justice Kay upheld the refusal of the latter to register "satinine" as an invented word for soaps, perfumery, starch, &c. It seemed to be held that it was too descriptive, and that there was not enough invention in the word.

The case of *Eno v. Dunn*, which was contested up to the House of Lords, curiously illustrated the doubtful value of the registration of trade-marks except to lawyers. The result of the case alluded to was that Mr. Eno prevented Mr. Dunn from registering as a trade-mark the title "Dunn's fruit salt baking-powder," he himself, however, losing in the course of the litigation his own exclusive right to the words "fruit salt" simply, which the trade-mark register seemed to give him. On the question of Mr. Dunn's right to the trade-mark referred to, nine judges in all expressed their views, four in favour of the application, and five against. The final judgment did not, however, make it clear that the applicant could not legitimately use the title he had adopted in trade: he was only refused registration of it.

Another important trade-mark case which was carried to the ultimate court was that of *Perry Davis & Son v. Harbord*, the definite result of which was the removal from the register of the words "pain-killer" simply as a trade-mark.

The latest, and in some respects the most important, case of the year has been the action, or series of actions, between the Apollinaris Company on the one side and Messrs. Ingram & Royle, and the Vichy Company on the other. The Court of Appeal has recently given judgment in regard to a series of applications, the general effect being to deprive the Apollinaris Company of the exclusive rights they have claimed by trade-mark registration in the titles "*Hunjadi Janos*," "*Apollinaris*," and "*Friedrichshall*." In these cases it would appear that the

effect will be to permit the Vichy Water Co. or other traders to sell the waters thus named if they can get them; but as in the second case the Apollinaris Company are the owners of the spring, and in the other cases are the concessionaires of the owners, they will still, apparently, be able to a large extent to control the market. They will not, however in the future, if the judgment remains unreversed, be able to prohibit sales of the said waters by the threat of an action under the Trade-marks Act.

CHEMISTS AND THE REVENUE.

One of the minor Revenue proposals in connection with the Budget of 1890 was to the effect that methylated spirit should not be sold to the public by retailers in less quantity than in ordinary wine-bottles. The object was to check the reported consumption of the spirit in some parts of the kingdom as a beverage. The Pharmaceutical Council was much excited over this proposition, and the organisation of the Society was energetically employed to oppose it. The Chancellor of the Exchequer readily agreed to withdraw the objectionable clause.

On a feature of the financial arrangements much more seriously affecting chemists and druggists, however, no official action whatever was taken. One of the Government schemes was to provide, by an extra taxation of 6*d.* per proof gallon on spirits, a fund whereby the County Councils might extinguish, in their respective districts, a certain number of licensed houses. The compensation proposal was not adopted by Parliament, but the tax had been already conceded. Obviously it fell not only on publicans, but also on chemists and druggists, the latter being affected, it was estimated, to the amount of from 1*l.* to 10*l.* per annum each, or to, perhaps, 30,000*l.* in the aggregate. To that extent, therefore, they are now paying what the Government itself regarded as a supplementary taxation. Many individuals wrote to Mr. Goschen complaining; but, in the absence of an organised resistance, he was able to treat the matter humorously. It ought not to be forgotten, however, and a strong attempt to get the 6*d.* withdrawn ought to be made previous to next year's Budget.

Another Excise provision, involving some extra cost to chemists was carried by the Chancellor of the Exchequer. It established that no Excise licence, except those granted to appraisers, auctioneers, and hawkers, should be valid for more than one establishment.

OTHER CASES OF LEGAL INTEREST.

An attempt was made at Nottingham, in January, to get a penalty from a chemist there, under the Sale of Food and Drugs Act, for selling as saccharine tablets an article which contained some sugar of milk as well as saccharine. The prosecution was unsuccessful.

Judgment in the prosecution of a herbalist, at Birmingham, under the Apothecaries Act, was reviewed in the High Court in March, the defendant claiming that he was protected by an unrepealed Herbalists Act of the thirty-fourth year of Henry VIII. It was shown, however, that that Act only applied to the supply of medicines for outward diseases, and for the good of humanity, and without reward. The appeal was dismissed, and the herbalist fined.

A chemist was prosecuted at Glasgow, in October, under the Sale of Food and Drugs Act, for selling as salicylic acid the ordinary salicylic acid of commerce. Dr. Charteris gave evidence as to the various qualities of salicylic acid, and the presence of 2½ per cent. of cresotic acid in the sample bought was certified by the analyst. On the suggestion of the sheriff the prosecution was withdrawn, it being understood that it had served its purpose of directing attention to the danger of selling salicylic acid not absolutely pure.

FATALITIES WITH CHLOROFORM.

At the beginning of the year an announcement was telegraphed from Hyderabad that, as the result of vivisection experiments on some five hundred dogs and other animals, Dr. Lauder Brunton, who had been paid a fee of one thousand guineas and expenses by the Nizam to go to Hyderabad for the purpose of the investigation, had established the result that the whole danger in the administration of chloroform arose "from asphyxia or overdose. None whatever from heart direct." This discovery exactly reversed the conclusion drawn from the previous slaughter of thousands of other animals; but for the moment, as usual, the new theory was accepted as an established fact, and great was the parade of the result. It is not too early to say that the only result attained has been the temporary glorification of the Nizam of Hyderabad and his scientific advisers. Deaths declared to have occurred from stoppage of the heart's action under the administration have been unusually numerous during the year, and the medical profession as a body have been entirely uninfluenced in their opinions by the statements on record as to the effect on the Nizam's dogs.

DR. KOCH'S CONSUMPTION-CURE.

Much more important was the announcement made by Dr. Koch at the International Medical Congress held at Berlin in the early part of August. The famous bacteriologist then stated that he had been for some years engaged in studying the effect of various medicaments on the bacillus of tuberculosis, and he believed that he was then on the proper track, and would soon be able to tell the medical world how to exterminate the tuberculosis bacillus from the lower animals, if not from man. The excitement consequent on this announcement forced Dr. Koch to make public some of his results, perhaps prematurely; and we are still in suspense as to the real value of his discovery. It appears that the remedy used, whatever it may be, is to be kept secret permanently—the Prussian Medical Department undertaking responsibility for this proceeding. That it has a powerful effect on tuberculous patients is undoubted, and it is also clearer that it presents new dangers than that it offers a remedy for consumption. Its effects on cases of lupus have been proved to be extraordinarily rapid, and, at all events, temporarily remedial. But no one has urged a waiting attitude in regard to lung tubercle more emphatically than the discoverer himself.

NOT CREDITABLE.

The dispensing of Yorkshire chemists was tested in January, and the result was that out of forty-four bottles of medicine obtained for analysis eight were reported to be inaccurate, and in two or three other cases results were unsatisfactory. Fines of 1*l.* to 5*l.* were imposed in several instances which were brought before the magistrates. Another result from the law-courts has also brought discredit upon chemists. We refer to the cases, between twenty and thirty in number, in which Messrs. Beecham, the pill-makers, have obtained injunctions against chemists and druggists for having sold as Beecham's pills a spurious imitation.

THE PILL-MILL.

In the early part of the year we induced a number of our subscribers to calculate, from the basis of their own knowledge, what might be the probable consumption of pills in the United Kingdom daily. The average of the estimates received came out at 5,643,961, or, say, one pill per week for every man, woman, and child in the British Isles. This curious calculation "caught on," and formed the basis of

innumerable articles in daily and weekly papers all over the world.

PHARMACOPŒIAS.

In the department of practical pharmacy the matters which have taken the first rank during the year relate to the principal Pharmacopœias of the world. A new German Pharmacopœia has been published; additions have been made to the British, and in the United States a Pharmacopœia Convention has met, discussed fundamental principles, and appointed a committee of revision for the next decennial edition of the Pharmacopœia of that country. In this connection it is also worthy of note that the Unofficial Formulary Committee of the British Pharmaceutical Conference published in January some additional formulæ for preparations more or less in demand, but for which there is no recognised standard. The usefulness of unofficial work, such as this, has in the past year been appreciated by French pharmacists who have a committee now working in the same direction. Practically the whole year has been spent in formulating the Additions to the British Pharmacopœia of 1885. It will be recollected that the General Medical Council resolved upon the publication of this work at its autumn meeting in 1889, and asked the Pharmaceutical Society of Great Britain to appoint a committee to co-operate with its own. This committee was not appointed until February of this year. It was, on the whole, a thoroughly representative one, and it had the assistance of Professor Attfield as its secretary, an office which the Professor also filled for the Medical Council. The Additions have been published and commented upon by us so recently that it is unnecessary to deal with them at any length now. We may, however, recall the principal steps which were taken to get a consensus of opinion from all parts of the country regarding what should and what should not be recognised in the Pharmacopœia. The Pharmaceutical Societies were consulted; and the medical authorities of the country—that is, the teaching or licensing bodies—were asked to name the comparatively new medicines which they thought fit for recognition. The replies given were taken as the basis of a list of remedies which had the “general approval of the medical profession.” That list was subsequently supplemented by the Pharmacopœia Committee, and we have the complete elaboration embodied in the Additions. The items contained therein, although numerically, and in some respects intrinsically, unimportant, bring the total number of pharmacopœial standards within sixty of the thousand. New remedies are mainly responsible for the numerical increase. There are one or two old-established favourites recognised for the first time, or officially replaced. The rest consist of synthetic remedies, vegetable medicines which have become popular within recent years, and a few inorganic salts and preparations. The Pharmacopœia Committees have wisely kept closely to the German Pharmacopœia standards in respect to synthetic medicines, while they have taken most of their pharmacy from the B.P.C. Unofficial Formulary, a circumstance which alone justifies the publication of that work.

THE GERMAN PHARMACOPŒIA,

after a somewhat prolonged period of preparation, saw the light of day in August, but we were able to give particulars of its contents in the month of June. The work which the committee had to do must have been terrific. No less than 1,240 new remedies were suggested for incorporation in the Pharmacopœia, as compared with 139 recommended to our own Pharmacopœia authorities. Ninety-one only out of the 1,240 were ultimately adopted, while 68 old substances and preparations were allowed to drop out. It cannot be said

that the new Pharmacopœia has been received with favour in Germany. There have been torrents of criticism. At the International Medical Congress held at Berlin in August, there was a discussion on Pharmacopœias, with an attempt to revise the international one, and no secret was made of the fact that the younger race of German pharmacists and medical men are devoid of confidence in the venerable gentlemen who constitute the Pharmacopœia Commission. There will be no such complaint against the British committees, for by succeeding in getting the Pharmaceutical Council to come down from its “high horse,” the General Medical Council has disarmed much of the criticism which generally followed the publication of the Pharmacopœia. Meanwhile, a new United States Pharmacopœia has, as we have stated, been placed on the stocks. In preparation for it, the chairman of the standing committee has continued his *resumé* of

PHARMACEUTICAL LITERATURE BEARING UPON PHARMACOPŒIAL STANDARDS.

The same thing has been done here by Professor Attfield in his capacity as Pharmacopœia reporter. Both circumstances give emphasis to the peculiarity of that literature. The greater part of it is directed to the improvement of existing galenic processes, or of pharmacopœial tests. This is not an unhealthy sign. It is well to perfect what is old in medicine. The use of such material is familiar, and for that reason it has an advantage in therapeutics over remedies whose action has by physiological experiment been determined. A few of the subjects which have been treated in this manner may be briefly noticed. Perhaps the most important is that in regard to the official tinctures, which was opened by Messrs. Farr and Wright at the Leeds Conference, and to which an addition has recently been made by Mr. John Findlay. The inquiry was primarily intended to ascertain what are the most suitable menstrua for the different drugs—most suitable for extracting the active principles, and for retaining these and other constituents in solution unimpaired. The inquiry will not end here. Mr. Findlay has, for example, made determinations intended to show how long the drugs should be macerated in the menstrua so as to obtain the maximum amount of extractive. Messrs. Farr and Wright are to continue their work, on this occasion conjointly, with different samples of the same drugs, and presumably by different processes. The results are bound to be of the greatest benefit to pharmacy; but the work must be so laborious and expensive that we cannot help regretting that it has been left to pharmacists engaged in business. It is such work as this that the Research Laboratory of the Pharmaceutical Society might take up. Closely associated with this subject is a controversy which has arisen regarding

FLUID EXTRACTS AND TINCTURES.

We had a touch of that in our own columns, wherein two eminent pharmacists crossed swords—one defending the “liquors,” and the other condemning them. The former was left in possession of the field. In the United States the matter has had a different aspect. There the feeling has grown that the “1-in-1” principle has been carried too far. The use of fluid extracts in tincture-making is very general, but the feeling is growing that the fluid extracts should give way to a line of concentrated tinctures, two parts representing one of the drug. In the department of tinctures we may also note the continuation of Mr. F. W. Fletcher's work, in the course of which he has referred to the use of methylated spirit in the manufacture of extracts. In the case of cannabis it is impossible to get rid of the empyreumatic

odour, and the question arises, How far will such a tincture be affected by fiscal regulations? With the exception of notes on ammoniated tincture of quinine, in one of which Mr. George Lunan has recommended the use of carbonate of ammonia in the place of solution of ammonia, there has been little else of importance done in this department. In regard to

GALENICAL PHARMACY GENERALLY

the year has not been particularly remarkable. The work done has been useful rather than brilliant, a fact which is due probably to the large number of young workers who now turn their attention to the improvement of existing processes and methods, or who put their experiences on record. In regard to infusions, for example, early in the year we published a thoroughly practical paper on the preparation of concentrated infusions by Mr. C. D. Moffat, which was notable as being one of a very few contributions to this department from those who have mastered all the troublesome details encountered in making strong preparations of vegetable medicines. Our official authorities appear to be not in the least inclined to recognise preparations of this character. If the recent association of the Pharmaceutical Society with the General Medical Council is to be taken as a precedent, we may expect that the time for officialising concentrated infusions is put back a good bit; for one would scarcely expect to find in the pharmacies of any of the retail pharmacists who were on the committee such a thing as a concentrated infusion. The tendency at present appears to be towards temporising expedients. In that direction we have had the old-fashioned preservative chloroform brought forward, Messrs. Burnett and Wyatt having given their experience at the Leeds Conference. The matter was fully discussed there, and the general opinion was that chloroform is an effective preservative for infusions and several other non-spirituous preparations. In this connection Mr. G. A. Grierson subsequently pointed out, in an article published in this journal, that chloroform cannot be relied upon to do its work under all conditions. The most favourable reports regarding its value have arisen from experiments on the small scale, and under one set of conditions; but when we alter the conditions—when, for example, we distribute the infusions from a large bulk to dispensing-bottles—it generally happens that the preserved preparations rapidly deteriorate. In other words, the influence of the chloroform is limited. The mention of Mr. Grierson's note recalls the fact that in the course of the year we have published

A SERIES OF PAPERS

communicated to us by well-known pharmacists. These have comprised many notes of great usefulness. We name them in the order in which they are published:—"The Detection of Sodium in Lithium Salts," by Mr. W. H. Symons, wherein the author takes advantage of the insolubility of the sodium salt in strong hydrochloric acid. This subject was afterwards, but apparently independently, discussed by Mr. I. W. Thomson, who corroborated Mr. Symons. In a note on "Soluble Essence of Ginger" Mr. W. H. McGarth has shown how the aroma of the ginger, as well as the pungency, may be retained. Mr. H. Helbing, in "Notes on Lanolin," continued the comments which he made in a previous volume, and mentioned some new applications of the ointment basis, which has since become a B.P. article. "Cream of Tartar" was the title of a paper in which Mr. H. Broadbent gave results of analyses of commercial samples of the article, showing that they contain from 3.5 to 4.5 per cent. of calcium tartrate, and seldom less than 94 per cent. of potassium bitartrate. The author afterwards brought the subject before the Leeds Conference,

where his conclusions were confirmed. Mr. P. W. Squire, in a note entitled "Caffeine Tri-iodide," replied to some comments made by Dr. Scholvién in a German contemporary regarding the constitution of the compound used by Dr. Mortimer Granville as a medicine, which gives up iodine readily when administered. The conclusion which Mr. Squire came to, as the result of careful and prolonged experiment, was that although the body contains three iodine atoms, it is really a normal hydriodide of caffeine with two loosely-combined atoms of iodine. This accounts for its therapeutic usefulness. "African Insect Wax" gave Mr. J. R. Jackson, curator of the Kew Museum, an opportunity for placing on record some interesting facts regarding the substance. It is obtained in a similar manner to Chinese insect wax from the plant *Ligustrum lucidum*. It is used by the natives of South Africa for various domestic purposes, and the quantity obtainable appears to be unlimited. A writer told all about how to make menthol cones in our issue of May 24, and in the subsequent issue Mr. F. W. Fletcher communicated the notes on tinctures to which we have already referred. Then followed Mr. John A. Forret, with a description of how to make a hot-water funnel with the appliances of the pharmacy. "Permanent Hypodermic Injections," by Mr. H. W. Jones, contained a criticism of the different methods which have been proposed for the preservation of solutions of organic substances used for subcutaneous injections. Chloroform-water was considered to be the simplest and best of all preservatives for the purpose. Mr. J. R. Jackson concluded the series in volume xxxvi. with a paper on "Manna-yielding Plants." Coming to

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we have a supplement to Mr. Jones's paper in one by Mr. Helbing, wherein the value of sterilisation in the preparation of permanent hypodermic injections was specially commended. Mr. Jones afterwards commented on this note. Mr. B. S. Proctor did useful service by calling attention to the variability of the Scheele's hydrocyanic acid of commerce. As the result of inquiry Mr. Proctor had found that the semi-official recognition of the acid by the B.P.C. had not as yet been effectual in keeping makers to the standard of 4 per cent. In our issue of August 2 Mr. W. A. H. Naylor gave very precise particulars regarding the preparation of "Oleite"—a useful skin-application which was first mentioned by Mr. F. B. Kilmer, an American pharmacist, but not sufficiently described by him. Mr. D. B. Dott gave us later an interesting account of the research by Dr. Stockman and himself on the chemistry and physiology of morphine and its derivatives, which has thrown a great deal of fresh light on that interesting subject, relationship between chemical constitution and physiological action. They showed, for example, that the replacement of a hydrogen atom in direct contact with a carbon atom would seem to cause a much more profound change physiologically than the replacement of a hydroxyl hydrogen; thus a body so changed ceased to be a narcotic and became a powerful muscle-poison.

In the next practical paper we had an exceedingly taking subject in "Flexible Gelatine Capsules." This was by Mr. Forret, whose name has already been mentioned. The paper was a thoroughly practical one, and was illustrated with sketches of the apparatus required. In addition to describing all the details of the process of manufacture, Mr. Forret communicated some original observations, such as what we may call the natural method for preventing capsules collapsing after keeping, a calamity which is determined by the gelatine envelopes not containing the proper proportions of water and gelatine. Next we come to eucalyptus oil, an article which comparatively few people have troubled

themselves about, although it is as variable an essential oil as is met with in the market. In his note on the subject, published on September 13, Mr. Squire gave precise particulars of the characters of Amygdalina and Globulus oils, while he showed that there are varieties in the market of which the source is not yet clearly understood. The same subject was afterwards referred to by Mr. G. A. Grierson, who gives the limits of density .868 and .875 for the yellow oil of great fragrance, which most people like. Mr. Grierson also discussed other matters in his paper, which was entitled "Notes from a Commercial Laboratory." Mr. Peter Bea, in a note on "Liquor Bismuthi," settled a previously unsolved problem as to the amount of solution of ammonia required to dissolve the bismuth citrate in making that liquor. Incidentally he also brought out the fact that some specimens of citrate are very sparingly soluble. Mr. T. Maben communicated a critical note on dilute hypophosphorous acid, and Mr. Dott embodied some of his experience on the manufacture and testing of antiseptic gauze in the note published on October 4. Two papers by Dr. Walter Ince, on "Economical Apparatus," will have struck everybody as being of great value, especially to chemists who have to depend upon their own resources for laboratory apparatus. The papers were profusely illustrated, and complete details were given how to make the various articles. One of those matters which now and again give trouble to dispensing chemists formed the subject of a second paper by Mr. Maben. This was the A. B. C. liniment—a mixture of aconite, belladonna, and chloroform liniments—which Mr. Maben suggests should be made perfectly clear by omitting the camphorated oil and replacing it with glycerine and camphor. Mr. Jackson again came forward, on December 6, with a paper on "Insects Injurious to Drugs," and last week Mr. Squire communicated the results of his experience of the chemistry and testing of paraldehyde, which go to corroborate the correctness of the congealing-point fixed by the British Pharmacopœia. Besides these papers, we have published many other specially communicated articles on subjects of interest to every practical chemist and druggist; and we may say here that we are always pleased to give attention to communications of this character from those actively engaged in pharmacy. We may also note two series of articles—"Scientific Work for Chemists" and "Pharmacy of the World"—which have contained much original information that is valuable to pharmacists. The mention of these matters, which may be regarded as being chiefly of professional and technical interest, reminds us that in the course of the year

OVER FIVE HUNDRED FORMULÆ

have been printed in THE CHEMIST AND DRUGGIST, most of them being original, although many have been given in reply to correspondents. This enormous number of formulæ can scarcely be passed without comment, seeing that the exigencies of trade have thrown chemists upon their own resources of late years, so that they have to be continually introducing novelties, especially those of their own manufacture, if they are to make the most of the circumstances in which they find themselves. An astonishing proof of that statement was given at the beginning of the present year, when influenza claimed thousands for its victims. Seldom have pharmacists been so busy as they were then. Rarely have counter specialities had such an opportunity. It was richly taken advantage of. It gave several drugs such a boom as never before had been seen. We need not discuss too minutely now what was popular and what failed to "catch on," or to stop the sneezing. One thing above all others took such a hold with the public, quickly and securely

—that was antipyrin, one of the many synthetic remedies which have been called; one of the few which have been taken. Antipyrin is unquestionably a complete success, and when we

LOOK BACK ON THE DYING YEAR,

it is astonishing how few of the novelties in this department have come to the surface. Exalgine was likely to have sunk into oblivion, so far as England was concerned, owing to the bad results which physicians were getting with it, when suddenly its value as an analgésic was highly extolled by Professor T. R. Fraser, who laid emphasis on the necessity of giving the remedy in small doses. It was large doses which had caused so many failures. A list of the synthetic bodies which have been introduced as medicines during the year can be of little value, but some of them will help to show the tendency of modern therapeutics. The tendency has been practically endorsed by the British Pharmacopœia in recognising several of the more important of the synthetic remedies, a course previously adopted by the Dutch and German Pharmacopœias. The first two substances which we may name exemplify the

TRANSIENT EXISTENCE OF NEW REMEDIES.

The year had scarcely opened when Michaelis announced the discovery of two hydrazin derivatives possessing therapeutic properties. These were acetylenephénylhydrazine and ethylenephénylhydrazinsuccinic acid. Nothing further has been heard of these. Not long after "orthin," or orthohydrazinparaoxybenzoic acid, also came forward, with antipyretic claims, but we have heard less of it than we have of orexin (phenyldihydrochinazolin hydrochloride), a body which has received its name owing to its intensely powerful appetising properties. Orexin is still on its trial, but it has not been much employed in this country, although it has been much used on the Continent, and with varying results. Several combinations of caffeine with stronger bases have been studied, such as antipyrin-caffeine and diuretin. The latter is a salicylate of theohromine and sodium which is peculiar in respect to the fact that it is a powerful diuretic and does not act upon the central nervous system. At the Paris Exhibition our reporters noticed several new bodies of the chloral class which were then little known. One of these was chloralimide, $\text{CCl}_3\text{CH}_2\text{NH}$, said to be a hypnotic. It should not be confounded with chloralamide, which has similar but better-proved hypnotic properties. The makers of chloralimide have during the past year been compelled to defend their discovery of a compound of antipyrin and chloral, called hypnal. This substance has been highly extolled as a hypnotic. Its constitution gives us an idea of the complexity of some of the compounds which are introduced into therapeutics. Hypnal looks simple enough when we look at its empirical formula, $\text{C}_{12}\text{H}_{13}\text{O}_2\text{N}_2\text{Cl}_3\text{H}_2\text{O}$, but it is really trichloraldehydphenyldimethylpyrazolone. The enigmatical appearance of words of this kind is at the worst a bogey; but organic chemistry makes such advances that those who do not, or cannot for want of time, keep up with it are greatly indebted to Mr. John Hodgkin for the able *resumé* which he gave at the Leeds Conference of "The Constitution of Synthetic Remedies." Of allied interest is the "Pharmacological Record," which Mr. Helbing commenced to publish during the past year. Most of the literature upon this class of medicines first appears in the German language, and it is one of the purposes of Mr. Helbing's record to summarise this literature periodically. Turning again to the discoveries of the year we notice another antipyrin combination, salipyrin, which comprises the properties of salicylic acid and antipyrin. Two substances were introduced almost simultaneously—sulphaminol, an antiseptic, which has not yet established itself,

and pyoktanin, which is simply another name for methyl-violet. This was introduced in two forms as a surgical antiseptic, and both have been extensively used; but when we bear in mind that many years ago other anilino dyes were used for similar purposes and failed to secure prolonged support, it will not be astonishing if the pyoktanins go the same way. Another antiseptic of the iodoform class may be mentioned. This is aristol, or dithymol di-iodide. It is reputed to have some of the properties of chrysarobin. Lately we have also had another thing of the same kind extolled—viz., antiseptol, or cinchonine iodosulphate—a substance which is by no means new. Other compounds which have been introduced are methyl-phenacetin, a body which exemplifies the remark made in regard to Dott and Stockman's work—the result of replacing a hydrogen atom in the phenacetin molecule by a methyl group being to produce a substance with a narcotic action. It is so in this case. Euphorin, or phenyl-urethane, trional and tetronal, bodies of the sulphonal group, and a new pyrazin (dehydro-methyl-phenyl-pyrazin) are amongst the bodies which we have to class as discoveries or introductions. This section can scarcely be closed without mention of the synthetic production of spermin, the reported active principle of the seminal fluid. It is the hydrochloride of piperazine (ethylenimine), and is introduced more as a tonic than for the purpose which Brown Sequard contemplated in his notorious injections. Unbounded as the work in regard to synthesis has been in the past year, there yet remains some

RESPECT FOR OLD FAVOURITES;

and the amount of literature which the well-known alkaloids and other active principles have produced is quite as voluminous as in any previous years. As far as can be judged at present, the chemistry of *Scopola carniolica* is complete. It will be remembered that this was taken up and ably dealt with by the Research Laboratory of the Pharmaceutical Society; but previously Prof. Schmidt had made a preliminary report about the root, under another name, and since then a full report on his work has been published, which corroborates in the main the results obtained in the Research Laboratory. A comprehensive abstract of a paper communicated to the American Pharmaceutical Association by Mr. S. W. Williams, which we published, also shows that scopola-root is now consumed in enormous quantities in the manufacture of belladonna plaster. Reference to the Research Laboratory recalls the fact that

SALICYLIC ACID

has been very much talked of during the year, owing to Professor Charteris's papers dealing with the impurity contained in the commercial artificial acid. The presence of this impurity was well known in manufacturing circles, for competition on the one hand, and the desire for cheapness on the other, kept a notoriously impure acid in the market. Professor Charteris consistently aimed to bring this fact home to physicians and pharmacists—to the former by reading papers; to the latter by a prosecution in Glasgow under the Sale of Food and Drugs Act. Manufacturers quickly produced an artificial acid free from impurities, and the Research Laboratory, taking up the matter, showed quite lately that the impurity now present in artificial salicylic acid, improperly purified, is paracresotic acid, and this Professor Charteris says is lethal. The result is not altogether satisfactory, for twelve months ago sodium paracresotate was introduced as a febrifuge superior to the salicylate—a fact which appears to have been unknown to Professor Charteris and those associated with him. The other pharmaceutical subject which has been investigated by the Laboratory was

the double cyanide of mercury and zinc, introduced by Sir Joseph Lister as a surgical antiseptic. The director of the Laboratory conclusively proved that the substance is not a true compound, but gave directions for the preparation of a fairly constant article. The cyanide has, we believe, been much less used lately, the fact being that something very like

A REVOLUTION IN ANTISEPTICS

has lately manifested itself. Corrosive sublimate and all other mercury compounds are proving somewhat dangerous germ-killers, and substances of the phenol class are regaining popularity. Iodoform also retains its position, in spite of its many rivals. At one time there was some talk about the antiseptic treatment being on the wane, perhaps because it was overdone, but, happily, there is no truth in this. Amongst

ACTIVE PRINCIPLES

which have been subjected to renewed research during the year are digitalin—in this case mainly to establish uniformity in regard to what is meant by the term. Aloin has been studied by Groenewold, with the result that some changes have been effected in the reputed composition of nataloin, while our knowledge of barbaloin and their derivatives has been enhanced. Opium appears to be an endless source of discovery for chemists: several new alkaloids and derivatives have been found during the last year, and even red-poppy petals have yielded to Hesse a new base, rhœagenine, differing from the other alkaloid, rhœadine, contained in this drug. The barriers which obstruct the progress to precise knowledge regarding the constitution of alkaloids are gradually being overturned, and, as the work proceeds, a product is occasionally obtained which is useful therapeutically. This is the case, for instance, in regard to hydrastinine, an oxidation product of hydrastine, which was introduced early in the year as a medicine for certain uterine disorders. The scientific progress covers such an extensive field that we cannot venture upon it in the space at our disposal. Turning again to the

PHARMACY OF GREAT BRITAIN,

we have to record a fairly satisfactory year for the various societies and associations which are in active existence throughout the country. Ireland takes no part at all in the advance of pharmacy, whereas in England and Scotland the amount of work done by associations, when regarded as a whole, is highly creditable. The Pharmaceutical Society's meetings in London and Edinburgh have been quite up to the average: lately those in London have become specially attractive owing to the exhibits of materia medica by Mr. E. M. Holmes, and the comments which he makes thereon. Independent of that, Mr. Holmes has, in the course of the year, added considerably to our knowledge regarding certain drugs. The associations have produced a large number of those papers which we have previously referred to as the work of young pharmacists. A mere list of these would occupy a page of our space, so we shall not venture upon any criticism of them, but simply emphasise what we said at the beginning of the winter regarding the usefulness of provincial associations. Turning to a wider field of association, it may be mentioned for the last time that the

INTERNATIONAL PHARMACEUTICAL CONGRESS

did not meet at Milan this year as was expected. In its place there was such an International Medical Congress at Berlin "ash neffer vash pefore." That Congress was an immense success in every respect, and there many important discoveries in medicine were announced which will make

the meeting a memorable one. The Pharmaceutical Congress is not dead, however, for our American cousins have resolved to have it in the States in the year of the Chicago Exhibition. As remotely touching the educational work of the Congress we may note here the resolution of the Pharmaceutical Society of Great Britain in regard to

EXTENDED EXAMINATION SCHEDULES.

These have been approved of after considerable delay, and were published in August so as to come into force in October, 1891. The new schedules only apply to the Minor and Major, present powers apparently prohibiting any alteration of the Preliminary examination. The Minor examination is to be considerably extended in scope—this chiefly in chemistry, botany, and pharmacy. Everything is to be more practical than hitherto, and by the requirements being detailed with more fulness, candidates will have a better chance than they had of getting-up what they are expected to know. At the same time the schedules dispose of many of the arguments which have been brought forward for a compulsory curriculum. Another matter which the Pharmaceutical Council is at present considering is a suggestion that the Society should meet once a year in a town, which is not London. Now, this looks like rivalry to the

BRITISH PHARMACEUTICAL CONFERENCE,

although we believe that there is no shadow of intention that it should be so. Still, the members of the Conference should not lose sight of the matter. The Conference has had a good career. It has grown steadily since the beginning; it has done good work, and has the makings of a much better association in it than it really is. The meeting at Leeds this year was a good one, and there is every prospect that the meeting at Cardiff next year will be as good. Yet there is much to do before the work of the Conference—the hurried, undigested work, we may say, for it is a rush from the beginning to the end of the two-days meeting—benefits pharmacy to the fullest extent of which it is capable.

COMMERCIAL.

No year within the last decade appeared to hold out upon its threshold fairer hopes of commercial prosperity than the one which will soon be fading away through the "corridors of time." But as we survey the principal events of that year, and cast a critical eye over the ups and downs of the Mincing Lane markets during its course, it can hardly be said that the promise has been fulfilled. The general condition of those branches of the produce markets in which subscribers to this journal are more or less interested especially is not a cheerful one, and it is sincerely to be trusted that 1891 may bring fewer disappointments, and witness a sounder, if less pretentious and sensational, course of trade than its predecessor. At the opening of the year now under review many important articles of consumption in the drug and chemical trades were advancing in price in a steady manner. The improvement then distinctly noticeable might have been maintained but for a revival of the abnormal and rash speculative spirit which had so often led to loss and disaster on previous occasions that it might have been believed to have lost some of its vitality and attractions. Even in spite of the collapse of many important articles in consequence of unsound speculation, a far larger number of the leading drugs and chemicals have advanced since the beginning of the year than have receded; but the fact remains that in the latter part of the year much of the progress made in the earlier months has been lost.

HIGHER PRICES

have ruled in many cases: Among the articles in which there has been a more or less decided improvement in price since January last may be mentioned citric acid, which has advanced from about 1s. 3½d. to 1s. 4½d. per lb.; oxalic acid, from 3d. to 3½d. per lb.; arsenic, from 13s. 6d. to 14s. 6d. per cwt. for white powder; bleaching-powder, in which the advance has been no less than 40 per cent.; benzol, which closes fully 30 per cent. higher; and benchu-leaves which an almost unprecedented absence of supplies has caused to be nearly doubled in price. Camphor, after many and sudden fluctuations, closes at a slight improvement—say, about 12 per cent. on the opening quotations of the year. Gamboge and guarana have both advanced on account of scarcity, and for Sumatra benzoin high prices have ruled throughout the greater part of the year. Honey is also dearer, and bees' wax has followed suit. Ipecacuanha has had an eventful year, but with improved supplies and an increase in the number of importers the price is now almost exactly where it stood at the opening of the year. Jalap, on the other hand, is about 150 per cent. dearer than it was a twelvemonth ago, though here also there are signs that the climax has been reached. Opium has attracted a fair amount of attention, and at times speculation has been strong in the article; but the improvement is not, after all, very considerable, and the same may be said of its principal alkaloids and of its preparations. Musk is cheaper than it has been, mainly for reasons to which we shall have occasion to refer later on. Many of the potash and soda salts, as well as a number of other heavy chemicals, have been affected by disturbances in the labour-market, the general advance in wages, rise in the cost of coal, salt, freights, and so forth, and last, but not least, by the action of combinations. A number of other articles of pharmaceutical interest, including such drugs as sarsaparilla, sandalwood and its oil, tonquin beans, orris-root, oils of star-anise, peppermint, (English and American), cassia, lemon, bergamot and orange, and menthol, are higher in price through various causes. Shellac has experienced a most eventful year, and, in spite of the demoralisation which has followed the over-rash speculative advance of a few weeks ago, closes at a substantial advance on the opening rates of 1890; TN orange lac for January delivery being now quoted at 88s., against about 76s. 6d. at Christmas, 1889. Quicksilver has been fluctuating as usual throughout the year, but it is rather lower now than in December last, and all the mercurial preparations are somewhat cheaper.

NEW DRUGS.

Apart from the new remedies prepared in chemical laboratories very few new drugs have reached our market during the past year. Upon such as are likely at some future time to become recognised articles of commerce we have commented fully in these columns. From the Australian colony of Victoria samples of insect-powder, cultivated there from Dalmatian seed, have been received, though at present the cultivation of the plant is only of the character of an experiment. Even if it proves a commercial success, the opportunities for sale in the local markets are so extensive that it will probably be years before the growers are able to compete in Europe and America with the Trieste dealers. Nevertheless, the quality of the sample forwarded to us is so good that the cultivator should feel encouraged to persevere in his efforts. The harvest of flowers in Victoria takes place from November to January. Another drug of which one or two shipments have reached London lately is oil of sandalwood distilled in Western Australia. The Australian sandal-

wood is not by any means so highly esteemed as the East Indian, which our English distillers are accustomed to employ for the preparation of the oil, and we have not as yet had occasion to examine samples of the Australian product. Nevertheless, there appears to be no *prima facie* reason why the distillation of oils from native woods and the preparation of drugs grown on the spot should not be successful at the antipodes, and in this instance especially so, as we understand that the distillery where this oil of sandalwood is prepared is fitted with the most modern plant. In some of the West Indian islands, also, the attempts successfully initiated one or two seasons ago to produce materials for perfumery and to distill essential oils have been continued this year, and in Dominica the industry may now be said to be firmly established. From Jamaica and one or two other islands quassia has recently been exported in the chipped and ground state, instead of in the logs, which formerly was the only mode of exporting the drug from these parts. So far as can be judged from the prices obtained for these drugs at the London auctions, there is every prospect that the venture will be successful. We also had occasion, some months ago, to describe ground quillaia bark and liquid extract made from the bark, which had been sent to the London market from Chile. The manufacturer of these articles intended to seek for a market for his wares among dyers rather than druggists, and we do not know whether there is a prospect for success in this venture; still, the determined attempts from so many different quarters to send us drugs in a prepared condition rather than in the raw state in which they have hitherto been accustomed to reach us, distinctly points to a time when a great part of the manufacturing industries now concentrated in a few of the more civilised countries shall be transferred to localities more conveniently situated for the command of raw material. Another new drug, which has been placed upon our markets within the last few months is East Indian podophyllin resin, from *Podophyllum emodi*, a plant occurring in abundance in the Himalayas. The root yields, on an average, 12 per cent. of resin, and the quality of the sample submitted to us was excellent in several respects. But there appears to be some doubt whether financial considerations will as yet permit of the preparation of the resin on the spot. At any rate, however, we may look for regular supplies of the root, which, it is thought, can be shipped at a price sufficiently low to enable our own manufacturers to prepare podophyllin from it in competition with the American article.

EXTENDED CULTIVATIONS.

Statements have repeatedly obtained currency during the year that the cultivation of several drugs and oils, notably insect-flowers, opium, and otto of rose, was about to be initiated in Russia on a large scale, but so far nothing tangible has transpired with regard to these projects. "Tonquin" star-anise oil, however, has now become a regular article of commerce in Europe, a French-Indian house having succeeded in securing a monopoly of the sale of all star-anise oil prepared in the colony of Tonquin. The cultivation of ipecacuanha in the Straits Settlements and Southern India appears to be now so firmly established that we may reasonably look for the supply of some part of our requirements of that drug from those countries within a measurable distance. The propagation of jalap in India does not appear to promise the same success as that of ipecacuanha. Our supplies of cinchona-bark from the Bolivian plantations and from those on the island of St. Thomé, off the west coast of Africa, have been increasing very considerably of late, and we have also received larger

consignments than in former years of Ceylon and Java coca-leaves, while quite recently a small shipment of this drug grown at a high altitude in British India has been received here.

MUSK, NATURAL AND SYNTHETIC.

The trade in musk has been more or less disturbed throughout the year by the introduction, in January last, of a synthetic coal-tar product offered to consumers as "Musc-Baur," and which is claimed to be an effective substitute for natural musk. The compound was invented by a German chemist, who sold his rights to a French syndicate composed of the same chemical manufacturers who are responsible for the successful introduction of vanillin and coumarin, and a well-known firm of essential-oil distillers. The introduction of the new product was followed by a panic in the musk market, and for some weeks animal musk became almost unsaleable. Gradually, however, the market recovered to some extent its stability, and during the latter part of the year comparatively little has been heard of the synthetic product. Nevertheless, the price of Tonquin musk, whether for this or other reasons, has generally remained lower than before the introduction of the new compound. The leading speculative articles of the drug business have suffered a good many fluctuations in the course of the year now under review.

CAMPHOR, CUBEBS, AND CINCHONA.

Early in the month of January the quotation for raw Japan camphor had advanced to the figure of 130s. per cwt. "c.i.f." terms for delivery, a price which was already abnormally high. Then came reports of scarcity of supply in Japan. Visible stocks everywhere sank to the lowest point known for many years, and the persistent reports of the enormous quantities of camphor required for the manufacture of smokeless gunpowder acted as an additional stimulant to an already over-excited speculative mania. Early in March the price of raw camphor on the spot rose to 10*l.* per cwt., and that of refined bells to 2*s.* 8*d.* per lb.; and subsequently much higher rates were still talked about. Just about that period, however, the supplies from Japan commenced to pour in at an ominously heavy rate, the smokeless-gunpowder story proved to be grossly exaggerated, and the market quickly receded to a more normal level, although the prices asked even now are still very high. From recent accounts it appears that the prospects of the cultivation of the camphor-tree in Florida deserve rather more attention than has yet been given to the subject hitherto. The increasing supply of cubeb berries has caused the price of that article, which had reached the extraordinary figure of 26*l.* per cwt., to recede again to 17*l.* per cwt. or thereabouts. The cinchona market has suffered from want of animation almost throughout the year; and in spite of a few spasmodic attempts at improvement the last state of the article, with a unit value of barely 1½*d.* per lb., is worse than the first, when it was still 2*d.* per lb. Gambier, guinea grains, sulphate of copper, cream of tartar, cascaraagrada, civet, colocynth, Cape aloes, glycerine, and mercurial preparations, are all cheaper now than they were in the beginning of the year.

UNFORTUNATE SPECULATIONS.

The most disastrous of the speculations of the year have been in spices and shellac. Zanzibar cloves have fallen from 5*d.* per lb. for delivery in January to 3½*d.* in December; white Singapore pepper on the spot has receded from 11*d.* to 7½*d.*, and ditto Penang from 8*d.* to 5*d.* per lb. The shellac "call" was swayed alternately by "bear" and "bull" cliques of speculators, and only a couple of months ago the latter succeeded in forcing up the quotations for second orange lac to a height which has

not been known of recent years. But the basis of the speculation proved utterly unsound, and within the space of a few weeks the advancing movement utterly collapsed, burying two or three prominent operators amongst its wreckage, and leaving the "bear," or depressing, party completely victorious. Another article, though a much smaller one, in which reaction from excessive price-rigging is now commencing to make itself felt is kola. Quite recently every available parcel of kola-seeds was eagerly bought up at extraordinary prices, out of all proportion, apparently, to the intrinsic value of an article so bountifully provided by nature in several tropical countries. The high prices have not failed to bring about heavy shipments of the drug from several quarters, and there is now every prospect of a severe over-supply.

QUININE CORNERING.

At the commencement of the year the influenza epidemic afforded some plausible ground to the many parties interested in quinine to set on foot a movement for higher prices. The consumption of quinine, it was said, had increased enormously in consequence of the epidemic, and there appeared to be a more substantial ground than had existed for a long time to look for a substantial advance in the long-neglected article. But, in spite of the enormous quantities which changed hands in the first quarter of the year for speculative purposes, as well as for consumption, quinine refused to move seriously, and the fact that even the undoubted increase in the consumption remained practically without effect upon the price of the article, is an excellent proof of the utterly lethargic state into which it has fallen. In our issue of June 29 last an Amsterdam cinchona-broker, in an interesting communication, revealed one of the causes—long suspected, but never before definitely stated—of the remarkable depression in quinine. His statement, which has never been contradicted, but in support of which sundry pieces of evidence have since been forthcoming, is to the effect that some of the Java cinchonagrowers have been unsophisticated enough to enter into contracts with German quinine-makers, by which the latter receive the whole of their bark direct from the plantation at a price to be fixed upon the basis of the unit prevailing at the time of the arrival of the bark at the factory. Whenever, therefore, the manufacturer knows that a large consignment of bark is about to arrive it becomes his interest to lower the price he shall have to pay for it, hence follow cheap offers of quinine for delivery, inability of other manufacturers to compete with the underseller, and consequently to pay high unit prices for their bark at the auctions, lower rates at the public sales, and a practical impossibility of improvement while these conditions last. The American quinine manufacturing interest made a determined fight for the re-imposition of the duty on foreign quinine, abolished some years ago, on the occasion of the passage through Congress of the McKinley Tariff Bill; but, strange to say, they were unsuccessful in an object which ought to have appealed thoroughly to the sympathies of the arch-tariff mongers then in power in both houses of the Legislature. The appreciation shown by the American consumer of the advantages conferred by the abolition of the quinine duty may be gauged by the constantly increasing imports of the article into the States. The receipts at the Custom Houses of that country were from January 1 to December 9 of this year, 3,266,800 oz., against 2,328,941 oz. in the corresponding period of 1889. A few weeks ago a gentleman prominently connected with the American quinine trade appeared in Europe for the supposed purpose of negotiating a convention between the whole of the world's quinine

manufacturers. The arguments adduced by the emissary in favour of such a combination, or the inducements held out by him, appear to have been sufficiently strong to induce the European manufacturers to hold a conference in Paris in the course of the present month, but the success of the negotiations is believed to be exceedingly problematical. Another circumstance which deserves to be mentioned, while passing in review the course of quinine during the year 1890, is the realisation of the "penny quinine" idea, though apparently the sale of the pills brought into commerce under that designation has not as yet been pursued on the systematic scale mapped out by the projector.

SHELLAC.

We have elsewhere referred to the collapse of the movement for forcing up the price of shellac. Only a few weeks ago it seemed that the speculators who had sold shellac for November and December delivery would find themselves in a very awkward place when the day for delivery had arrived. The London stock, it was argued, had very seriously diminished, there was not sufficient orange lac available to balance contracts for delivery held by the principal "bull" operators, and shipments from Calcutta, even if made, could not arrive here in time to be of any immediate use. But somehow the project for cornering the sellers failed, and after the total collapse of the scheme, the "call" business was suspended, confidence having completely ceased to exist. A new form of contract for shellac for delivery is now being drawn up, and will probably come into force with the beginning of next year. One of its provisions, it is said, will be to demand a deposit on every transaction, so as to secure the seller from loss. If this proposed new form of contract is adopted, the "call" business will probably be recommenced on January 1.

THE SYNDICATE AND COMBINATION MANIA,

which became acute in this country last year, has made further progress during 1890, its latest manifestation being the formation of the "United Alkali Company (Limited)." One of the first syndicates affecting pharmaceutical interests actively promoted this year was the glass-bottle makers' combination. On January 14 a private circular was issued announcing the formation of a glass-bottle manufacturers' syndicate, with a capital of 1,400,000*l.* and the exclusive right of the bottle-making machinery belonging to a well-known Yorkshire firm.

THE GLASS-BOTTLE SYNDICATE,

however, did not proceed to allotment, owing, it is said, to dissensions among the promoters. In February the British manufacturers of sulphur under the Chance process met in Liverpool for the purpose of arranging a convention, such a combination having become imperatively necessary, if the output of sulphur were to be kept in proportion with the capacities of manufacture. In March the continental and British manufacturers of iodides met at Cologne to arrange the terms of a continuation of their convention. This was successfully accomplished, notwithstanding the abnormal position of the iodine manufacturers, whose combination had come to an end, by effluxion of time, on December 31, 1889, and whose acting agents experienced considerable difficulties in the establishment of a new convention. As a matter of fact,

THE NEW IODINE RING

was not formally renewed until about March, the trade in this important chemical being meanwhile seriously hampered. The peruvianate of potassium combination existing among the German manufacturers has been dissolved in the course

of the year with the usual result of a cheapening of the price of the material. The acetate-of-lead manufacturers have also fallen out on the Continent, although at the present time their combination is practically again renewed. The principal feature in syndicate-mongering, however, has been the formation of

THE ALKALI UNION.

Rumours of the negotiations which finally culminated in the floating of this gigantic undertaking commenced to reach the public ear in a more or less undefined manner soon after the beginning of the year. With January 1 the combination until then existing between the bleaching-powder manufacturers had expired. The price of bleach immediately dropped very considerably, and almost at once hints began to be thrown out that in some form or other a renewed understanding would be arrived at among

THE LEBLANC ALKALI MANUFACTURERS.

As the year grew older the reports that a gigantic combination was projected, and likely to be successfully accomplished, took a more concrete shape, and the market for heavy chemicals was kept in a most unsettled state in consequence of the general uncertainty as to the future, although so much as was allowed to leak out from time to time respecting the negotiations distinctly tended to render prices firmer. Early in June the negotiations for the establishment of a "chemical union" had made considerable progress. Works had been valued and inspected, the consent of all the Leblanc makers except a few had been obtained, and it was even whispered that the capital had been fixed at 6,000,000*l.* About September 20 a preliminary prospectus was issued to each of the firms who had given their adhesion to the scheme; and finally, in the beginning of November, the United Alkali Company (Limited) became an established fact, the headquarters of the business being in Liverpool. The capital of the concern is 6,000,000*l.*, half in preference and half in ordinary shares of 10*l.* each. The first subscribers comprise the names of nearly all well-known chemical manufacturers. The company has one honorary president (Sir Charles Tennant) and four honorary vice-presidents. The qualification of each of these officers is the holding of 5,000*l.* shares in the company. Besides the honorary officers, who are directors *ex officio*, the board consists of from nine to twenty directors. The new company has been the subject of many unfriendly comments, but it is as yet too early to say whether it will justify these. For the present it appears to be inclined to adhere to the motto, "Defence, not defiance," which one of its most prominent promoters pronounced to represent the keystone to its policy. The fact remains, however, that there has been a very decided advance in the cost of nearly all the principal articles manufactured by the combined alkali works.

CINCHONA-BARK COMBINATIONS.

The combination schemes set on foot in Ceylon last year among the cinchona and cinnamon planters appear to have collapsed almost from the date of their birth: at any rate, if they still continue to exist nominally they are inoperative for all practical purposes. Early in last January we announced that the Java Cinchona Planters' Association had initiated steps for the establishment of a "trust" on the lines of that started in Ceylon some time previously. But nothing has since been heard of the scheme and it may be taken for granted that, for the present at any rate, the idea will not assume any tangible shape.

RAILWAY RATES.

Turning from the consideration of the combinations to the legislation of the year affecting the commercial interests

represented by this journal, the principal event of interest has undoubtedly been the prolonged inquiry by a Commission, presided over by Lord Balfour of Burleigh, into the classification and scale of charges for merchandise traffic proposed by the railway companies. It will be remembered that in 1889 the railway companies published a revised joint maximum tariff and classification of goods, which they proposed to adopt subject to Parliamentary sanction being obtained. The trading interests of the country raised a strong opposition to these proposals, and through their chambers of commerce and other organisations energetically protested against their adoption. The chemical section of the London Chamber of Commerce appointed a committee, consisting of Messrs. David Howard, J. Evans, (Liverpool), F. H. Lescher, W. H. Francis, and Charles Umney, to take action on behalf of the chemical trade, and a list of objections to the proposed rates and classification drawn up by this committee was lodged in due time with the Board of Trade. The Railway Companies made certain small concessions, but the bulk of the objections remained to be argued out before the Board of Trade Commission, which sat first at the Westminster Town Hall, and subsequently visited the chief provincial centres and Scotland. A large number of representative men connected with the drug and chemical trades were examined before the Commission, and when, in the course of the month of July, that body published its decision in the matter, it was found that, so far at any rate as the drug and chemical trades were concerned, very substantial advantages had been gained, not only in the reduction of many drugs to lower classes than those in which they had originally been placed by the companies, but also in the matter of

"SMALLS" AND "EMPTIES,"

two points of exceptional importance to wholesale druggists, a very large proportion of whose consignments falls under the former classification. "Empties," by the desire of the Board of Trade, are to be chargeable in the same class as that in which goods with which they were originally filled were chargeable. As regards "smalls," these were formerly packages under 500 lbs. in weight, and for their carriage the companies have always had power to charge exceptional rates. They proposed to raise the weight to 560 lbs., but the Commissioners defined "smalls" as parcels not exceeding 3 cwt. in weight, and, instead of allowing a maximum charge of twice the ordinary maximum rate, or, as one of the companies claimed, "such reasonable sum as the company think fit," they allowed only the ordinary tonnage rate, plus a supplementary charge, varying from 6*d.* to 2*s.* On August 19 the sub-committee appointed by the chemical section of the London Chamber of Commerce again met to consider the report of Lord Balfour of Burleigh's Commission, or, in reality, to celebrate their victory over the railway companies. Barring certain small points the results were pronounced very satisfactory, and there the matter rests for the present, pending Parliamentary action. In the month of February the House of Commons, on the initiative mainly of Col. Howard Vincent, appointed a committee to inquire into the working of the

MERCHANDISE MARKS ACT OF 1887,

and after holding several prolonged meetings and examining, at a considerable outlay of money, a large number of witnesses, whom they plied with an avalanche of questions, this committee at the end of July issued a report, in which they affirm that the Merchandise Marks Act has proved most beneficial to the manufacturing interest of the country, and that the importation of fraudulently marked or

falsely-described goods has diminished materially since it came into operation. The committee oppose the abolition of the examination of goods in transit. They recommend that, in order to prevent the importation of adulterated or spurious goods, the importers shall be compelled to declare the true nature of their imports to the Customs, and shall be punishable for making a "false trade description" within the meaning of the Act, if their imports are found not to consist of the material which they purport to be. At the time of the report we observed that the carrying of this recommendation into law would render such practices as, say, the importation of rubbish under the name of gum benzoïn or ipecacuanha punishable under the Act, and, if properly carried out, would, no doubt, have a beneficent effect in checking occasional extravagances of Mincing Lane trading. But, as yet, there seems to be but little prospect that the Legislature will find sufficient leisure to incorporate the conclusions of the committee in the Statute-book.

The drawback regulations on the export of tinctures and medicinal preparations established in 1839 have worked smoothly during the present year. An order was issued by the Governor-General of British India, and took effect on March 21 last, by which the customs duty on alcohol imported into that country was increased by about 15 per cent., with the exception of perfumed spirits in wood or bottles, on which the duty was advanced from 7 rupees and 8 annas to 8 rupees per imperial gallon or 6 quart bottles.

TARIFF REVISION.

The principal event in connection with foreign legislation which has affected the drug and chemical trade during the year under review has been the enactment of the new American tariff law, known as the "McKinley Act," and its corollary measure the "Customs Administrative Act." Early in the year a committee of the United States House of Representatives was engaged in considering suggestions for the revision of the tariff, and on that occasion we reported how manufacturers of all kinds were pressing their claims to have the duties on their particular commodities raised to practically prohibitive figures. Mr. McKinley introduced his Bill in Congress in the beginning of May, but it was not until about six months later that the measure finally passed into law. The rush of vessels from all parts of the world to arrive in time to clear the American Customs before the first day of the new Act, the resentment raised among the American people against the raising of the prices of all their daily commodities, which found vent in the practical annihilation of the McKinleyite and Republican majority in the House of Representatives at the general election, are fresh in public memory. Whether the Act will be repealed, or even modified, for some years to come is more than doubtful; but in all probability its provisions, which are not altogether inelastic, will meanwhile be enforced in the discreetest possible manner. The drug and chemical trades of this country have not been much affected by the tariff. They are more adversely hit by the Administrative Act, which came into force on August 1, and under which the already onerous formalities of passing goods through the American Customs were very considerably increased. The "Silver Bill," a financial measure adopted by Congress this year in the supposed interests of the farming classes and the mining interest, has also had a strong, though indirect, influence upon our markets.

The French Treaties of Commerce expire on February 1, 1892, and must be "denounced" a twelvemonth previous. The committee appointed by the French Chamber to report upon the question numbered only eight free-traders among its fifty-five members, and there is every prospect that the

drastic protectionist Bills now before the Legislature, embodying the principle of a double tariff to be enforced according to the treatment meted out by other nations to French goods, will be substantially adopted. In Russia also tariff legislation is impending, and there, according to the present indications, it is likely to be of an even more thorough protectionist nature than in America and France.

Pharmaceutical Society of Great Britain.

EXAMINATIONS IN LONDON.

December 11, 12, 16, 17, 18, and 19, 1890.

MAJOR EXAMINATION.

Thirteen candidates were examined. Four failed. The undermentioned nine passed, and were declared qualified to be registered as pharmaceutical chemists:—

Andrew, John H., Oldham	Metcalfe, Henry T., Tickhill
Bell, Robert H., Sunderland	Mountain, John T., Woodbridge
Haigh, Walter, Halifax	Sleath, Edmund W., Manchester
Hillman, Charles E., Westbury	Wrench, F. W., Silverdale
Mawer, William Fred, Grimsby	

MINOR EXAMINATION.

One hundred and fifty candidates were examined. Ninety failed. The undermentioned sixty-nine passed, and were declared qualified to be registered as chemists and druggists:—

Abbott, Alfred A., Alresford	Knight, William, Chichester
Adair, Elliot, Workington	Lawton, Charles Edward, Leekwood
Arrandale, John Samuel, Denton	Leytham, Thomas Arthur, Lancaster
Arthur, Arthur, Carmarthen	Linstead, Edward Flatman, London
Axe, William John, York	Littlefield, William Henry, Ventnor
Baker, William H., Cosham	Lobbett, James Godfrey, Hingham
Bolwell, William T., Weston super-Mare	Long, Fred. James Towell, Dover
Bonner, Clifford G., Berechurch	Minnikin, George Rennison, Keswick
Boorne, Herbert E., Frome	Morley, Charles, Lelant
Brown, Ernest Ansell, Margate	Morris, John, Neath
Brown, James, London	Palmer, Frederick, London
Claridge, Charles, London	Petter, Edward Arthur, Folkestone
Cooper, Frederick William, Brightonsea	Place, Edward Bland, Pickering
Cope, Edward James, Reading	Rees, Joseph, Brynammaw
Davies, Griffith, Cardigan	Reynolds, William C., Harrogate
Davies, Jenkin William, London	Richards, John, London
Dewey, Thomas Henry, Merton	Roper, Henry Arthur, Plymouth
Dixon, Richard, Newport	Saunders, Charles Edw., Highgate
Dudderidge, Frank Rawlinson, Blandford	Smith, Arthur Sidney, Doneaster
Elliott, Edward Matthews, Walsall	Smith, Ernest Alfred Austin, Bristol
Fisher, Ernest Hunter, Blackheath	Smith, Harry George, Downham Market
Fletcher, Fred Taylor, London	Stephens, Albert F. H., Falmouth
Freeman, William Marshall, Birmingham	Summers, Henry T., Heckington
Funnell, Richard, Whittlesea	Swift, Arthur Hayball, York
Gardiner, John Adams, Bridgnorth	Turner, George Pain, Taunton
Gibson, Joseph, Keswick	Turney, Edward Genge, Plymouth
Green, Edward Joseph, Boroughbridge	Underwood, George, Whitby
Gregory, Bromley George, Weymouth	Vasey, Frederick W., Stanhope
Harden, Arthur George, Ash	Walker, George B. B., Wellinghborough
Heath, Robert Philip, Norwich	West, Joseph Arthur, Peelham
Heny, Alfred Warrington, Duffield	Wharman, William Allan, Naaruru
Hodges, Thomas Walter, Tuseford	White, Samuel Baufield, Taunton
Jenkins, William Thomas, Kidwelly	Whittle, George, London
Jones, Thomas Lloyd, Denbigh	Williams, Hugh Alfred, St. Clears
	Wills, Alfred George, London

MODIFIED EXAMINATION.

Two candidates were examined. Both failed.

MESSRS. PHILIP HARRIS & CO. (LIMITED), of 9 Bull Ring, Birmingham, will move the wholesale and apparatus departments of their business to their new premises at 144 and 146 Edmund Street, Birmingham, on December 29. Their retail department will follow about a fortnight later.



Pharmaceutical Education in Ireland.

SIR,—It is to be regretted that when Mr. Evans saw fit to introduce my name into his letter in your last issue, he did not restrict himself to absolutely accurate facts. As for the correspondence published in *THE CHEMIST AND DRUGGIST* May 17, 1890, it can speak for itself, and does not require Mr. Evans to misrepresent it.

Mr. Evans states that owing to the failure to secure a quorum in January last a resolution could not have been submitted to the Privy Council. I will ask him is not that excuse for not applying to the Privy Council quite out of harmony with fact, seeing that in December at a *special* meeting (*vide* letter of Registrar of Pharmaceutical Society of Ireland in correspondence above referred to), which I had so much trouble to get a report of, the Council passed a resolution to establish an evening class: why was not the resolution then sent to the Privy Council, and what reason was there to await a meeting in January? and, as to that, can an agenda be now produced for the abortive January meeting, which contains a resolution affecting the establishment of a school? Was not the December resolution sufficient?

I still hold that the school should be conducted on independent lines, after the model of that at Bloomsbury Square, and that the examination-room, chemical benches, &c., should not be used for school purposes. I am, however, glad to see any little improvement in the way of properly constituting and regulating the school as now accepted by the Privy Council. I quite feel that no action would have been taken in that direction by the present Council had not attention been directed to the matter originally by

48 Henry Street, Dublin, Yours faithfully,
December 21. WILLIAM N. ALLEN.

SIR,—Mr. Brunker asserts that my letter proves his case to hilt. I do not know by what process of ratiocination he has arrived at this conclusion, but until he condescends to inform us clearly what his contention really is, it will be difficult to understand what proves it and what disproves it. The cultured ex-President goes on to remark that I have obtained my licence on easy terms, and that consequently I am opposed to a higher educational standard. The first assertion is unjust and unfair, and the second highly erroneous. If I have passed the examination, I have done so by complying with the regulations at present in force, which are considered more severe and exacting than those of former years. Then, having got over the barrier myself, it is absurd to suppose that I should wish to have the road made easier for others, as the more difficult the examination, the scarcer and more valuable would the qualification be.

As a matter of fact, I have written in favour of raising the standard of pharmaceutical education and examination, both here and in England, in another journal, but my efforts were not crowned with the approbation of Mr. Brunker, possibly because I did not think it necessary to go out of my way to attack the Pharmaceutical Societies; and if I did this before obtaining the licence, it is not likely that I should alter my opinions when the difficulty of attaining to a higher standard could only affect others. I hold, and have always held, that the higher the degree of competence of which a man is required to give evidence, the greater rights he has to protect, and the greater right he has to protection; in other words, that protection and education shall proceed *pari passu*, as they have done in the case of the medical profession.

Mr. Brunker asserts, loftily and dogmatically, that I am quite unable to grasp the distinction between education and grinding. I beg to remind Mr. Brunker that some authority more conclusive than his own *ipse dixit*, would be required to prove this, though I confess that I cannot speak from any

intimate knowledge of "grinding," as I never was a day in the Society's school, and never "ground" with anybody in my life.

Yours sincerely,
19 North Earl Street, Dublin. T. C. MCWALTER.

SIR,—Mr. Evans appears to labour under the impression that the body over which he presides is quite superior to criticism. I cannot for a moment admit its claims to any such immunity.

I am not going to follow him through his discursive letter, the greater part of which deals with ancient history, with which I have no concern. I come at once to his admission that possibly the School of Pharmacy as it exists may have some defects. That is exactly my case. Nay, it has radical defects, and I presume the Council will proceed to investigate them, and remove them as soon as possible.

As Mr. Evans has thought fit to indulge in personalities, I must ask your permission to deal with the last clause of his letter, which conveys an unfair and injurious imputation.

I admit no reproach for having been mainly instrumental in the introduction of the Pharmacy Act Amendment Bill. I go further and claim my full share in having brought about such a settlement of pharmacy law in Ireland as has placed it on a liberal and permanent basis.

Mr. Evans knows perfectly well that the Bill to which I wished *bon voyage* was the draft Bill agreed upon in 1888 by the representatives of the Pharmaceutical Society and of the Chemists and Druggists.

This Bill I was for months urging upon the Chemists and Druggists to promote on their own account, and was unable to move them until the Society by its legal action compelled them to introduce it in self-defence.

Mr. Evans knows perfectly well that when the Bill was printed in a mutilated form I at once protested, and that under pressure the promoters agreed to restore such provisions as I required in committee, and that these resolutions, as well as other amendments drafted by me, were embodied in the Bill.

Mr. Evans knows, too, that the Bill was still further knocked out of shape by impromptu amendments introduced in Committee of the House of Commons, and which were rendered possible by the ignominious flight of their Parliamentary champions after firing a blank cartridge or two.

And he knows that the representatives of the Society would have sadly failed in their duty if they had not procured Lord Waterford, or some other peer, to restore the Bill as nearly as might be to its original form.

I only regret that the defects which remain in it were not removed, at an early stage in the progress of the Bill, by a rational agreement between the rival parties, by which a liberal expenditure of time, money, and temper would have been spared.

With reference to the 100 hours question, Mr. Evans is beating the air. No one ever said that 100 hours at a chemical bench would make an *analytical chemist*.

Yours faithfully,
December 22. J. E. BRUNKER.

Quis Custodiet?

SIR,—Some time since, when Mr. Carteighe was on the war-path, I noticed in one of his speeches that he deplored the fact that we had more to fear from enemies within our own ranks than from outsiders, by which I presume he was alluding to cutters. That being so, I was somewhat surprised, on reading down the list of recently-appointed local secs., to find the name of a gentleman in a town with which I am well acquainted (happily not the town I reside in) who is a notorious cutter, and who, I believe, first started cutting in that town amongst the chemists.

I do not know under what system the local secretaries are appointed, but I presume the Council has the ratification of the appointment, even if they are locally elected.

I noticed also that Mr. Carteighe said, at one of the meetings of the Society, that he did not presume to say that these secretaries were the best men in each town, but that they were the best that could be got. However that may be, I do not think it very creditable to the Society to have men who are avowed cutters representing them.

I may say that it is a matter of perfect indifference to me personally, as I have no connection with the Society, nor do I desire to have.

Yours faithfully,

Teignmouth, December 20.

JNO. E. RYDER.

1870-1890.

W. R. F. (196/57) says he had the following order a few days ago, and he compares the prices obtained then with what would have been charged twenty years ago. This is his contrast:—

	1830	1870
	s. d.	s. d.
Beecham's pills	0 9½	1 1½
Pears' soap	0 3½	0 6
½ lb. glycerine	0 3	0 10½
½ lb. mag. eltrat.	0 3	1 0
Eau de Cologne	1 4	2 6
	2 11	6 0

The profit on the business in 1870 would have been 2s. 6d. in 1890 it was 2½d. Our correspondent remarks, "I would wish history could repeat itself."

MISCELLANEOUS INQUIRIES.

195/6. *Aquosa*.—Tinot. *Opil Aquosa*.—Pour 15 oz. of boiling water upon 1½ oz. of opium in small pieces, and knead well in a mortar; when cold, add 5 oz. of glycerine; set aside for three days, shaking occasionally, and filter.

184/1. *Chemious*.—Green Verdigris Ointment used after castrating animals:—

	Oz.
Resin ointment	5
Verdigris	½
Turpentine	2
Mutton tallow	2
Oil of origanum	½
Tincture of iodine	½

Digest elder leaves in the tallow to get the desired colour.

186/53. *C. E. O.*—We cannot undertake to give you a *Cattle Spice*, like Simpson's, nor to supply imitations of any proprietary articles. A combination of aniseed, allspice, cumin, ginger, liquorice, and turmeric, in equal or varied proportions, is a good spice; or, if you want one more medicinal, try the following:—

Pennycreek	5 lbs.
Juniper berries	1 "
Fennel seed	12 oz.
Linseed	1½ lb.
Bicarbonate soda	1 "
Gentian	1 "
Ginger	1 "
Common salt	½ "
Sulphate of soda	1 "
Asafetida	½ oz.

All powdered, mixed, and sifted. A tablespoonful for a dose.

201/40. *C. D.*—It would be confusing if we were now to explain in a particular sense any of the coupon questions which may not be quite clear, as some hundreds of replies have already been sent in. The questions are the same for every competitor, and if there is any ambiguity the difficulty is the same for everybody.

200/12. *A. P. S.* has omitted the most important part of his communication—his name and address.

23/12. *Pisces*.—Bronzing Steel Pens.—The formula for the dipping solution is: Iron scales, 1 lb.; arsenic, 1 oz.; muriatic acid, 1 lb. Mix; and while the pens are dipped keep a piece of zinc in the bath.

201/40. *C. D.*—Leeming's Essence. The formula generally used is as follows:—

Cantharides	8 oz.
Camphor	2 "
Enphorbium	8 "
Oil of origanum	1 "
Castile soap	3 "
Spirit	6 pints.

Digest for 14 days and filter.

202/4. *Juvnis*.—You will see from the index that we have published particulars regarding Sir James Sawyer's etherial tinctures.

200/60 *Victor*.—You will find particulars of prices charged to medical men for dispensing in our issue of November 23, 1889. These may suit you for Club-dispensing, but we should think you would find it preferable in this case to quote a substantial discount from your regular prices.

200/44. *M. M.*—Steveuson and Howell give the following formula for *Ginger Cordial*:—

Plain syrup (s.g. 1.220)	1 gallon
Essence ginger cordial	1½ oz.
Lemon-juice	4 "
Liquid saffron	1 "
Salicylic acid	40 grains.

Mix.

The common formula for *Ginger Wine* is as follows:—

To seven gallons of water put nineteen pounds of sugar, and boil it for half-an-hour, removing the scum as it rises, then take a small quantity of the liquor, and add to it nine ounces of the best ginger bruised. Put it all together, and when nearly cold, chop nine pounds of raisins very small, and put them into a nine-gallon cask. Slice four lemons into the cask after taking out the seeds, and pour the liquor over them, with half-a-pint of fresh yeast. Leave it unstopped for three weeks, keeping it filled up, and in about six or nine months it will be fit for bottling.

200/39. *Scmen*.—We should think Lennon & Tobb would put you on the track. Apply to them and other South African houses, whose addresses you will find in the *DIARY*.

200/47. *W. H. L.*—The oleaginous black substance which you speak of as rising to the surface of the *Laundry Copper* is a mixture of lime with animal and other matter from the clothes. It is prevented by adding more washing-soda, or preferably borax.

200/58. *K. P.* (Barbados).—Tinned Salmon is made by filling the tins with the fresh salmon; sealing up the tins, but leaving the pinhole in the top; then placing the tins in water and boiling long enough to cook. The pinhole is soldered while the contents are quite hot. The same plan would, we presume, be suitable for the flying-fish.

200/63. *Mel*.—The English Honey which will not crystallise because it has been over-heated might be mixed with some which has crystallised, and set aside in a cool place. If any subscribers know of a more expeditious method, perhaps they will communicate it.

202/40. *Statics*.—No name sent. The question was replied to a few weeks ago.

203/2. *Enquirer* (Manchester).—We should think a watery medium would be unsuitable for the *Stamping-ink* for Linen which is to contain vermilionette or ultramarine. An oily basis containing linseed oil, with a suitable amount of resin to thicken, is generally used. If you must have a watery basis try tragacanth to suspend the colouring.

HONEST SOAP.

F.R.C.M.

Dr. REDWOOD, Ph.D., F.I.C., F.C.S., &c.

Professor of Chemistry and Pharmacy to the Pharmaceutical Society
of Great Britain.

"Being authorised by Messrs. Pears to purchase at any
"and all times, and of any dealers, samples of their Transparent
"Soap (thus ensuring such samples being of exactly the same
"quality as is supplied to the general public), and to submit
"same to the strictest chemical analysis, I am enabled to
"guarantee the invariable purity of this soap.

"The proportion of alkalies to fats is absolutely chemically
"correct. In a perfect toilet soap neither preponderates—a
"characteristic the immense importance of which the public
"have not yet been 'educated up' to realizing. An excess of
"alkali or an excess of fat being alike very injurious, and even
"dangerous to a sensitive skin.

"It is also free from any admixture of artificial colouring
"substances, its well-known dark amber tint being entirely
"due to the natural colour of the materials used in its manu-
"facture.

"The perfumes introduced are pure, agreeable, and per-
"fectly harmless.

"No water has been added. Water is quite commonly added
"in the manufacture of soaps to increase their weight (some
"containing as much as 30 to 40 per cent.), but PEARS' SOAP
"is entirely free from any such admixture, and thus being
"*all soap instead of soap and water*, it is remarkably
"lasting, that is to say, that whilst producing an abundant lather
"it is not quickly worn away in use, and wears down to the
"smallest possible piece; there being consequently no waste
"*it is really a remarkably cheap article.*

"My analytical and practical experience of PEARS' SOAP
"now extends over a very lengthened period—nearly fifty years—
"during which time I have never come across another Toilet
"Soap which so closely comes up to my ideal of perfection; its
"purity is such that it may be used with perfect confidence
"upon the tenderest and most sensitive skin—*even that of a*
"*new born babe.*"

Dr. Redwood, Ph.D., F.I.C., F.C.S.



BICARBONATE OF SODA,

REFINED AND RECRYSTALLIZED.

PURE AND CHEAP:

ANALYSIS.

Bicarbonate of Soda	...	...	...	...	97.20
Mono Carbonate of Soda	...	...	...	...	1.90
Sulphate of Soda	...	...	...	...	trace
Chloride of Sodium	...	...	...	...	.035
Moisture	...	...	...	...	.82
Insoluble	...	...	...	...	nil

PURE ALKALI,

GUARANTEED 58 DEGREES,

EQUAL TO 98 PER CENT. OF CARBONATE OF SODA.

Most economical form of Soda for the use of Printers,
Bleachers, Dyers; Glass, Paper, and Soap Makers.

SODA CRYSTALS

OF THE FINEST QUALITY.

BRUNNER, MOND & CO., LIM.

*Manufacturers of Soda by the Ammonia Process
(Solvay's & Mond's Patents),*

NORTHWICH, CHESHIRE.

THE CHEMISCHE FABRIK AUF AKTIEN,

Vormals E. SCHERING, BERLIN,

MANUFACTURERS OF PURE CHEMICAL PRODUCTS

AND PATENTEES OF

CHLORALAMID

SEE "BRITISH MEDICAL JOURNAL," 14 DECEMBER, 1889.

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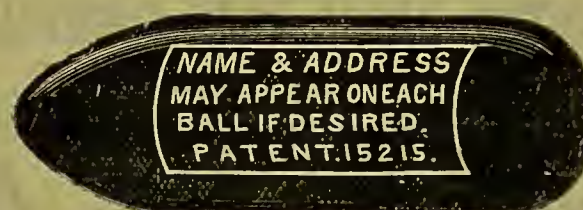
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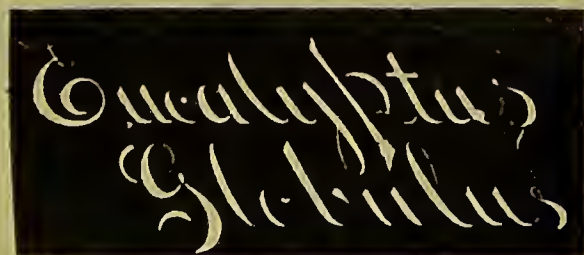
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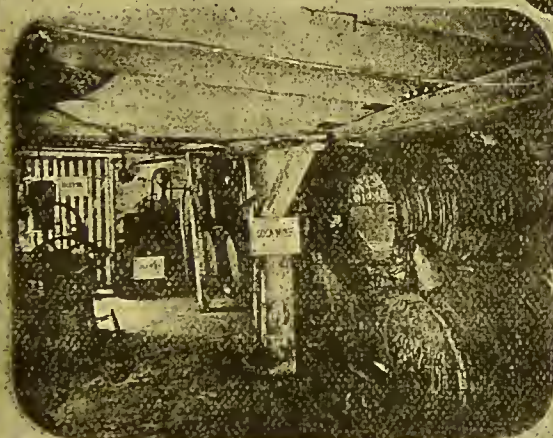
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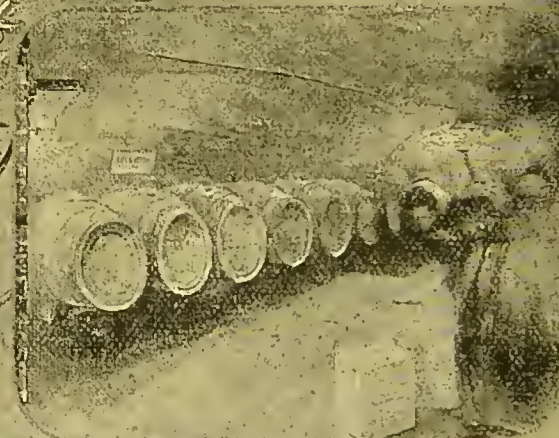
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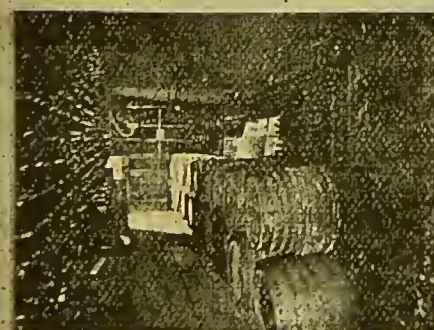
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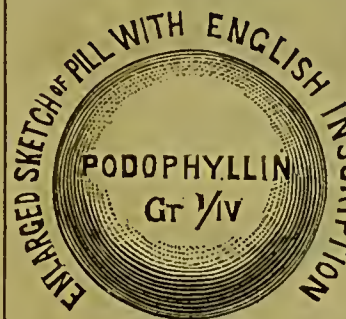
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Arsenate of Soda ..	1	1/60	6	Aloes ..	10	1 2/3	0 7	" ..	5	5/6	2 10
Arsenate of Strychnia ..	1/2	1/120	8	"Anderson's" or "Scotch Pills"	—	—	0 6	Ergotina ..	1	1/6	0 10
Bi-chloride of Hydrar- gyrum ..	1	1/60	6	Benzoate of Lithina ..	1	1/6	0 8	" ..	5	5/6	0 10
Bi-iodide of Hydrar- gyrum ..	1	1/60	6	Bromhydrate of Quina	5	5/6	1 3	" ..	10	1 2/3	0 10
Colchicina ..	1/2	1/120	8	" ..	10	1 2/3	1 8	Extract of Belladonna ..	1	1/6	0 7
Acetate of Morphia ..	1	1/60	7	" ..	15	2 1/2	2 0	Amorphous Quassina ..	1	1/6	0 8
Hydrochlorate of Morphia	1	1/60	8	Bromide of Camphor ..	1	1/6	0 7	" ..	2	1/3	0 10
Phosphoric Acid ..	1	1/60	8	Caffeina ..	5	5/6	0 8	Santonina ..	2	1/3	0 7
Phosphuret of Zinc ..	1	1/60	8	Calomelas ..	1	1/6	0 7	" ..	5	5/6	0 8
" ..	2	1/30	8	" ..	5	5/6	0 7	Sulphate of Quina	5	5/6	1 3
Picrotoxina ..	1	1/60	8	Hydrochlorate of Quina	5	5/6	1 3	" ..	10	1 2/3	1 8
Crystallised Quassina ..	1	1/60	8	" ..	10	1 2/3	1 8	" ..	15	2 1/2	2 0
Extract of Strophanthus	1	1/60	10	" ..	15	2 1/2	2 0	Sulphate of Sparteina ..	2 1/2	5/12	0 10
Sulphate of Strychnia ..	1	1/60	8	" ..							

The preceding list comprises only a very small portion of the Pills and Granules prepared by the Firm of L. Frère. Their complete Catalogue contains the various formulæ of the French Pharmacopœia, also the leading ones of the British Pharmacopœia, as follows:—

BRITISH PHARMACOPŒIA				BRITISH PHARMACOPŒIA			
PRICES				PRICES			
	Per Gross	Per lb.	Per Bottle of 50 pills		Per Gross	Per lb.	Per Bottle of 50 pills
Aloes Barb. P. B. gr. iv. ..	1 0	10 0	4	Ferri Carb. P. B. or "Female Pill" ..	1 0	8 0	4
Aloes and Ferri P. B. ..	1 2	10 4	5	Blue Pill P. B. ..	1 0	10 0	4
Aloes and Myrrh. P. B. ..	1 7	12 0	6	Rhei Co. P. B. or "Compound Rhubarb" ..	1 4	12 0	5 1/4
Acetate of Soda P. B. ..	1 4	10 4	5 1/2	Aperients or "Antibilious Pill" ..	1 0	10 0	4
Calomel Co. P. B. or "Calomel Pill" ..	1 2	10 0	5	Podophyllin gr. 1/4 6,000 per lb. ..	1 2	20 0	5
Colocynth Co. P. B. or "Colocynth Pill" ..	1 8	16 0	6 1/2	Acid. Arsenios gr. 1/60 ..	1 0	10 0	4
Coloc. and Hyos. P. B. ..	1 7	13 0	6	Atropa gr. 1/60 ..	1 4	32 0	5
Ferri Iodid. P. B. gr. iii. ..	1 8	16 0	6 1/2	Digitalin gr. 1/60 ..	1 4	28 0	5

The above are the principal pills in daily use, and those P. B. are made in strict accordance with the formulæ of the British Pharmacopœia. In proportion with the demand, other kinds will be added to our list, at equally low prices.

NOTE.—Beyond the pills and granules mentioned in our price list, we manufacture to order any kind of pill or granule of which the formula may be confided to us, with whatever inscription the client may select. These special orders cannot be undertaken for a less quantity than two kilogrammes (4 lb. 7 oz.). It is also necessary to give (1) the colour selected for the covering, (2) the inscription written very distinctly. This lettering cannot occupy more than 18 European letters. The spaces between the words count as a letter. For the Hindoo languages the number of letters may vary according to the form of type. The price for manufacturing is 18 francs (14s. 4d.) per kilogramme (2 lb. 3 oz.) of pills covered. Our customers can have the raw materials sent to us by a wholesale drug house, or we will undertake to supply them. It is hardly necessary to add that an absolute discretion is guaranteed. The Granules comprise the doses of active principle for 1/2 milligramme, up to one centigramme exclusively. The Pills comprise all the other doses. Each bottle of Granules contains one hundred granules, viz.: 8 doz. 1/2. Each bottle of Pills contains fifty pills, viz.: 4 doz. 1/2.

A Complete Catalogue is forwarded Free on Application.

THE TRADE ARE RESPECTFULLY REQUESTED TO HOLD STOCK OF

BAYLEY'S WOOD OILS,

Which is now being extensively advertised. It may be obtained from the following Wholesale Houses;—

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EDINBURGH—Raimes, Clark & Co., Duncan, Floekhart & Co.

GLASGOW—Glasgow Apothecaries Co., W. & R. Hatrick & Co., and Jas. Taylor, Trongate.

DUNDEE—Jas. N. Davidson & Gray, Nethergate.

ABERDEEN—Wm. Paterson & Sons.

COVENTRY—Wyleys & Co.; Leamington—Judd & Co.; Leicester—Stephen Wand.

NORWICH—Smith & Co.; Exeter—Evans, Gadd & Co.; Liverpool—Evans, Sons & Co., and John Thompson.

BIRMINGHAM—Southall Bros. & Barclay, Philip Harris & Co., Crooke & Taylor.

THIRSK—Wm. Foggitt; Bristol—H. Hodder & Co., Broad Street.

MANCHESTER—Jas. Woolley, Sons & Co.; Newcastle-on-Tyne—John Ismay & Son.

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Established by 90 years' experience as a safe and effective Medicine.

Sold universally by Chemists and Patent Medicine Dealers.

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SHOW CARDS AND BILLS ON APPLICATION.

ALLCHIN'S SMELLING SALTS.

The increasing demand for these celebrated Smelling Salts has induced the Proprietor to bring them out in a more portable and elegant form than hitherto supplied. The New-shaped Bottles will be found well worth the attention of the Trade.

WHITE FLINT GLASS, Handsomely Cut, 4 Sizes, Retail 6d. 1/6, 2/-, 2/6
" " " Watch Shape, for the Pocket, 3 Sizes, Retail.. .. . 1/-, 1/6, 2/-

ALFRED ALLCHIN'S PHARMACEUTICAL PREPARATIONS.

SMELLING SALTS.—The MONOCARBONATE OF AMMONIA, manufactured by ALFRED ALLCHIN, is the Neutral Salt so much valued for the preparation of Smelling Salts. It retains its pungency as long as any Salt remains. 1-lb. bottles, 2s. 8d. each.

LIQ. AMMON. ODORIF., or VOLATILE ESS., for Allchin's Ammon. Monocarb. In Stoppered Bottles, 4-oz., 1s. 8d.; 8-oz. 3s.; 16-oz., 6s. each.

PUNGENTS, with handsome Cut Stoppers, filled with Allchin's Smelling Salts, 8s. per doz.; retail, 1s.

OL. ROSÆ. CONCENT.—One ounce of this Concentrated Solution of Anchusine, mixed with two pounds of Oil, will give it the usual colour: it is also admirably adapted for colouring Pomades, Lip Salve, Camphor Balls, &c. 4s. per lb.

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Sole Proprietors—

W. BUSH & CO. (late Allchin), Chemists, 180 Barnsbury Road, LONDON.

TO BE HAD OF ALL THE WHOLESALE HOUSES.

BUYERS ARE CAUTIONED TO SEE THAT THEY GET THE

GENUINE



DR. JOHN HOOPER'S PILLS,

Which may be known by the Name of the Inventor being on the Government Stamp.

Handbills and Show Cards will be sent on application to

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AMERICAN BUYERS are particularly Cautioned!!

Telegraphic Address—"FEEDING BOTTLES LONDON."

Dr. J. COLLIS BROWNE'S CHLORODYNE.

THE ORIGINAL AND ONLY GENUINE.

IMPORTANT CAUTIONS

From Lord Chancellor SELBORNE, Vice-Chancellor Sir W. PAGE WOOD,
and the LORDS JUSTICES OF APPEAL.

VICE-CHANCELLOR SIR W. PAGE WOOD, by whom the suit in Chancery was first heard, stated in his judgment that Dr. J. Collis Browne was undoubtedly the Inventor of Chlorodyne, that the whole story of the Defendant Freeman was as deliberately untrue as the falsehood he had deposed to with reference to the use of his Chlorodyne in the Hospital.

The VICE-CHANCELLOR also stated, 'that Chlorodyne was a fanciful name, and had application been made sooner, the Court would have given Dr. Browne protection.'

LORD CHANCELLOR SELBORNE coincided with the judgment of the Vice-Chancellor upon this point, and stated 'that had application been made at a proper time and place, the Court would have found means to restrain the Defendant from misrepresenting the decision of the Vice-Chancellor.'

LORD JUSTICE JAMES, on appeal, stated in his judgment, 'that the Defendant Freeman had made a deliberate misrepresentation of the decision of Vice-Chancellor Wood.'

It was proved in Court, on affidavit by Mrs. Forbes, of Paris, that the testimonial published in the *Times*, November 14th, 1865, speaking of the great efficacy of Chlorodyne in Cholera, referred to Dr. J. Collis Browne's Chlorodyne, and that she never used any other, that she had written to the Defendant Freeman to that effect; notwithstanding which notice the Defendant publishes the said testimonial as referring to his medicine.

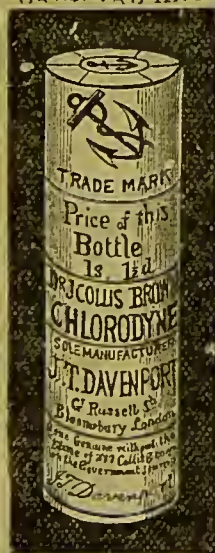
The Editor of the *Medical Times*, in his report on Chlorodyne, January 13th, 1866, gives information that the Chlorodyne referred to was the medicine introduced by a retired Army Medical Officer, which was Dr. J. Collis Browne; still this is published by the Defendant as testimony to his medicine.

Numerous affidavits from eminent Physicians and others were produced in Court, stating that Dr. J. Collis Browne was the inventor of Chlorodyne, and that when prescribing they mean no other.

The Defendant himself publishes that his compound is in effect and composition quite different to any other preparation; nevertheless he assumes the name, testimonials, &c., of Chlorodyne.

Technicalities in law prevent that protection which the public should justly have against such a course of conduct. It is now incumbent on all who purchase Chlorodyne to see that the name, 'Dr. J. Collis Browne's Chlorodyne,' is engraved on the Government Stamp, as it is not sold otherwise. All other compounds under the name of Chlorodyne are spurious. All attempts at analysis have failed; hence the statement that the constituents of Chlorodyne are known is a misrepresentation.

ORIGINAL AND



ONLY GENUINE

FURTHER IMPORTANT NOTICE.

The subjoined list of eminent Firms concur with Vice-Chancellor Sir W. Page Wood's statement in Court, that Dr. Collis Browne was undoubtedly the Inventor of Chlorodyne; and that when Chlorodyne, or the Original Chlorodyne, is ordered, they invariably supply Dr. J. Collis Browne's:—

Apothecaries' Hall,	London	Frazer & Green,	Glasgow	Morson, T., & Son,	London
Allen, Hanbury & Co.,	"	Gale & Co.,	London	Newbery & Sons,	London
Balas Brothers,	"	Giles & Son,	Clifton	Oldham, G., & Co.,	Dublin
Banks & Richards,	Birmingham	Goulding, Messrs.	Cork	Parsons & Richardson,	Leicester
Barron, Harvey & Co.,	London	Gratton & Co.,	Belfast	Peake, Allen & Co.,	Dublin
Beil, John, & Co.,	"	Grimwade, Ridley,	London	Raines & Co.,	York
Bourne & Taylor,	"	Grindley & Son,	Chester	Raines & Co.,	Edinburgh
Corbyn & Co.,	"	Hearon, Squire & Francis,	London	Sang & Barker,	"
Cox & Gould,	"	Hodgkinson, Tonge & Stead,	"	Sanger, J., & Sons,	London
Curling & Co.,	"	Hopkins & Williams,	"	Sim, James, & Co.,	Aberdeen
Curtis & Co.,	"	Hovenden, R., & Sons,	"	Smeeton, W.,	Leeds
Davy, M'Murdo & Co.,	"	Hunt & Co.,	Exeter	Southall & Co.,	Birmingham
Dobbin, W., & Co., Limited	Belfast	Hunt, A., & Co.,	"	Sutton, W., & Co.,	London
Drew, Barron & Co.,	London	Johnson, J. H. & S.,	Liverpool	Tomlinson, Hayward & Co.,	Lincoln
Drew, B., & Alexander,	"	Langton, W., & Co.,	London	Treacher, Hodgkinson & Co.,	London
Dunn & Company,	"	Lynch & Co.,	"	Westrup, J. B.,	Kensington
Edwards, W.,	"	Mander, Weaver,	Wolverhampton	Westwood & Hopkins,	London
Evans, Gadd & Co.,	Exeter	Marsden & Sons,	London	Woolley, James,	Manchester
Evans, Lescher & Webb,	London	Maw & Son,	"	Wyleys & Brown,	Coventry
Ferris & Co.,	Bristol	Meggesson & Co.,	"	Yates & Co.,	London
Foulger, B., & Son,	London	Mackay, John, & Co.,	Edinburgh		

After these public statements in a Court of Equity, and subsequent confirmation by the trade at large, no Chemist can conscientiously use or sell any other compound for Chlorodyne without committing a breach of faith, unjust to patient and physician. The value of the remedy alone creates the great demand.

Sold in Bottles—1s. 1½d., 2s. 9d., 4s. 6d., and 11s. Usual Discount to the Profession.

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Beg to inform their friends and the Trade generally that, having purchased the Business of

BARRON, SQUIRE & CO., BUSH LANE,
and also the various Formulæ of the Special Preparations of
JAMES BASS & SONS, HATTON GARDEN,
they are prepared to execute orders for the same, and pledge themselves to supply them in all their integrity.

Specimens of these Preparations have remained in the Museum of Kew Gardens during 23 years without deterioration.

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AS SUGGESTED BY DR. HUGH WOODS.



Liq. Calcis Iodinatæ.—A solution of Hypiodite of Calcium. Very effective in curing Gout, Rheumatism, Syphilis, Strumous or Tubercular Disease, Goitre, &c. Highly antiseptic and deodorant. Dose—M. v to xx. Price, 4-oz. bottles, 1/2; 8-oz., 2/; 16-oz., 3/6

Liq. Potassæ Iodinatæ.—A solution of Hypiodite of Potassium. An extremely powerful, safe, and unirritating antiseptic. Useful in same diseases as above. Cures parasitic and other skin diseases. Dose—M. v to x. Price, 4-oz. bottles, 1/4; 8-oz., 2/4; 16-oz., 4/.

Red Oxyiodide of Bismuth.—Very superior to Iodoform. Odourless and unirritating. Powerfully antiseptic. Cures wounds, sores, eczema, intertrigo, chapped hands, sweating feet, &c. Price 1/6 per oz.; ointment (1 in 10), 3/6 per lb.

Yellow Oxyiodide of Bismuth.—An excellent antiseptic application to the throat, nose, &c. Very valuable for internal use in cancer of the stomach, gastric ulcer, dyspepsia, vomiting, &c. Dose—5 to 20 grains. Price, 1/4 per oz.; ointment (1 in 10), 3/ per lb.

Leaflets descriptive of above, and monthly price current, on application.
Special terms to Hospitals and Public Institutions.

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and preparations of Alum, Animal Charcoal, Antimony, Baryta, Bismuth, Strontia, Zinc, &c.
CASTLE STREET, SAFFRON HILL, E.C.
Works:—WEST DRAYTON, MIDDLESEX. Telegraphic Address:—"ETHER METHYLATED LONDON."

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For terms and particulars, apply to the Proprietors—GUY'S TONIC COMPANY, 4 Ludgate Circus, London, E.C. It may also be obtained from the usual Wholesale Houses.

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Guy's Tonic is sold Retail at 2s. 9d. per bottle. One size only prepared. We are co-operating with Chemists and the trade generally arranging satisfactory terms in return for general enterprise on our behalf.

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References given and required. Samples and Quotations solicited.

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WHOLESALE & RETAIL
111 OXFORD STREET, LONDON, W.

Specialty useful in Hot
and Invigorating,
Pleasant, Refreshing,
ALL
CURES
MORAL DISEASES.

PURE TARTAR EMETIC.

PURE OXIDE OF ANTIMONY.

Showing 98 per cent. of anhydrous Sb_2O_3 .

This product is obtained BY A NEW PROCESS, and
is offered at VERY ADVANTAGEOUS PRICES.

POULENC FRÈRES,

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Grand Prize, Universal Exhibition, Paris, 1889.

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FOREIGN AND ENGLISH CHEMISTS.

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Messrs. Roberts & Co. beg to inform the Trade that they are Agents for all the principal French and Foreign Specialities and Medicines, a large supply of which they have always on hand, and can supply on very favourable terms. They are in daily communication with their Paris House, and can offer exceptional facilities for procuring New Medicines, &c., &c., with very little delay. The following is a list of a few that they name *au hazard*, and that have a large sale:—

Retail	Per doz.	Retail	Per doz.	Retail	Per doz.	Retail	Per doz.
4/6..Alcool de Menthe Ricqlès	41/6	4/6..Capsules Matico	35/	9/..Laville's Gout Tincture	81/	2/9..Rabuteau's Syrup Ferrug	24/8
2/9 "Ditto ditto	21/	4/6.. " Mathey Oaylus	35/	9/.. " " Pills	78/	4/0..Racahont des Arabes	31/
2/9..Aubergier's Syrup	27/	4/6..Ohashaing's Wine	39/	1/1 1/2 Papier Fayard	6/9	4/6..Reynal's Bougies	38/
1/9.. " Pâte	15/	2/9.. " Pills	24/	2/3.. "Ditto	13/6	2/9..Ricord's Injection	24/
6/6..Bay Rnm	57/	4/6..Clin's Dragées Bromide Cam	45/	2/3..Papier Fruneau	14/6	4/6.. " Capsules	36/
3/6.. "Ditto	31/	5/..Eau de Botot (Genuine)	40/	4/.. "Ditto	24/6	9/.. " Syrup	90/ 4/6; 42/
2/..Belloo's Charcoal	15/	3/.. "Ditto	24/	1/9..Pâté d'Aubergier	15/	1/6..Star Paper	11/
1/9.. " Lozenges	15/	2/..Espic's Cigarettes	13/6	1/9.. " de Berthé	15/6	1/9..Vallet's Pills	14/6
4/6..Blancard's Pills	32/	4/6..Elixir de Coca (Mariani)	48/	2/9.. " de Ooca Mariani	25/	2/9.. "Ditto	23/
2/6.. "Ditto	13/	2/9..Flon's Syrup	23/	1/9.. " de George	14/6	4/6..Veloutine (White, Pnk, Oim)	28/
4/6..Bron's Injection	27/	2/9..Gayetty's Paper	24/	1/1 1/2 "Ditto	9/	3/6.. "Ditto	22/
4/6..Bugeand's Wine	36/	2/3..Granules Arsen. Acid	13/6	1/6.. " de Nafé	13/6	4/6..Valentine's Meat Juices	34/
3/6..Bully's Vinegar	30/	2/9.. " " Iron	14/5	1/9.. " Regnaud	14/6		£19/10 gross
2/.. "Ditto	14/6	2/9.. " Soda	15/4	7/..Pierlot's Valerian	60/	2/9..Vichot's Trochisques	22/
3/6..Candé's (Lait Antéphil.)	36/	2/9..Grimault's Syrup Lime	24/	2/9..Rabuteau's Drgées Ferrug	24/6	4/6..Vin Mariani	38/
4/8..Capenles Bromide Camph	45/	2/3..Guyot's Liq. Goudron	18/	7/0.. " Elixir Ferrug	65/		

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[1825

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Tubes, 1s. each; Half Tubes, 1s. each. Pomade in vials, 5s.
HUMAN VACCINE, from healthy children only, microscopically examined and source quoted. Tubes, two-thirds full, 1s. 8d. each; Tubes one-third full and Lancet-charged points, 1s. each; Pin-points, 1s. 1d. each. Eighteen charged Small Points, 5s. Tubes, two-thirds full (same as those mentioned above, but without source), in quantities for export, 25 per 100 Tubes. Pin-points uncharged, 1s. per dozen. Vaccines Ejectors, 1s. 3d. each, including postage. Vaccinations by appointment. P.O.O.'s (including postage, and crossed London and Westminster Bank) with orders, payable to
EDWARD DABE Secretary.
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GOUT

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PILLS.

THE SAFEST and MOST
EFFECTUAL CURE for

Gout,
Rheumatism,
Rheumatic Gout,
Lumbago,
Pains in the Head
Face, and Limbs, &c.

They require neither confinement nor alteration of diet, and in no case can their effect be injurious.

Prepared only by GEORGE EADÉ,
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all Chemists, in bottles, 1s. 1½d.; three
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REGISTERED.—More effectual than Mustard Leaver. May be obtained through any Wholesale House. 6d. Tins, price 2s. 6d. per dozen.

CAPSICUM is highly recommended in *The Lancet* by Sir J.—S—, M.D., and Dr. H—J—B— for the treatment of Rheumatism, Neuralgia, Bronchitis, Bronchial Catarrh, Sub-acute Gout, &c.

EXTRACTUM SENNÆ LEGUMINUM LIQUIDUM;

Or, FLUID EXTRACT OF SENNA PODS (RANKIN & BORLAND'S).

A pleasant, mild, and efficacious Aperient, superior in many respects to Cascara Sagrada. Dose—From $\frac{1}{2}$ to 1 Fluid Drachm.
See Paper by Dr. MACFARLANE in *The Lancet* of Saturday, July 27th, 1889, p. 164.

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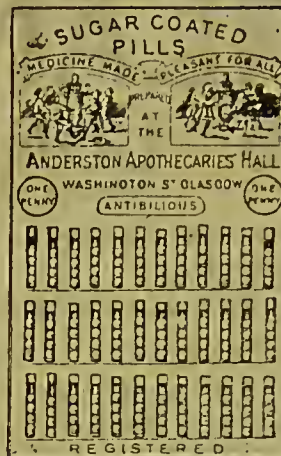
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SOFT SILK FLEXIBLE CATHETER,

GUARANTEED WITH WOVEN EYES.

To be had of all Surgical Instrument Makers
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Medicine made pleasant for all.
The Cheapest and Best Family Medicine.
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Glass Tubes, on Cards of 3 doz., or in
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A. tibilious	Hamilton
Asafoetida	Liver
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Caster Oil	Quinine
Colocynth	Rhubarb
Dandelion	Tonic
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Terms—3s. per Gross, cash; 6 Gross
assorted, in handsome mahogany glass
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Agents and Purchasers of large quantities
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Pellets and other varieties, put up as
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January 1st, 1891.

NOTICE TOWLE'S PENNYROYAL AND STEEL PILLS

Mr. E. T. TOWLE, of Dryden Street, Nottingham, Chemist and Druggist, begs to inform the Trade and the Public that he is possessed of the sole right to manufacture and sell Towle's Pennyroyal and Steel Pills, and no other person or firm is interested in such business.

All orders to be addressed to Mr E. T. TOWLE, or to his recognised Agents.

(Signed)

EDWD. T. TOWLE,
Nottingham.



CAUTION. Immediate proceedings will be taken against all person
pirating the Title, Name, or Trade Mark.

THE CARBOLIC SMOKE BALL

WILL POSITIVELY CURE—

FOR INHALATION ONLY.



COLDS
COLDS in the HEAD
COLDS on the CHEST
CATARRH
ASTHMA
BRONCHITIS
HOARSENESS
LOSS of VOICE
INFLUENZA
HAY FEVER
NEURALGIA
THROAT DEAFNESS
CROUP
HEADACHE
WHOOPIING COUGH

As all the Diseases mentioned proceed from one cause, they can therefore be cured by one remedy—namely, the CARBOLIC SMOKE BALL.

THIS INFALLIBLE REMEDY IS USED BY

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Countess of Dudley	Viscountess Cranbrook	Lady Mostyn	Lord Fitz-Gerald
Countess Dowager of Meath	Dowager Viscountess Downe	Lady Clavering	Sir Edward Colebrooke, Bart.
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~~RETAIL~~ Retail Price, 10/- each. Chemists can obtain from all the Patent Medicine Warehousemen.

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Corns and Bunions may be removed, and enlarged Toe Joints reduced, by using *Thompson's New French Corn Plaster*. Sole Proprietor, M. F. THOMPSON, Homœopathic Chemist, 17 GORDON STREET, GLASGOW, from whom the Plaster may be had in Packets, by post, for fourteen stamps. Those who are troubled with the discomfort of Corns or Bunions will be glad to have attention called to this remedy, as it removes pain very speedily. It is a simple Plaster, thin as silk, and comfortable to the foot.

Ask your Chemist for it, and take no Substitute.

Wholesale 9/6 per dozen, cash with order, post free.
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Walking is now really a pleasure to me.

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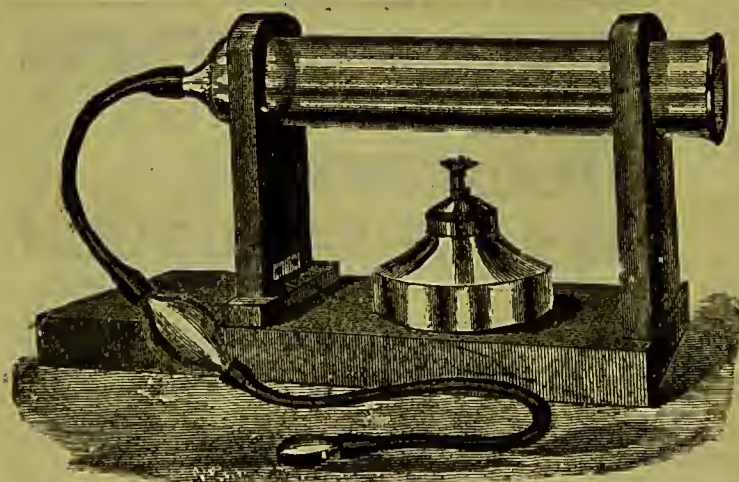
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Cervical Jacket.

1. Cervical Jacket, No. 3.

**INSTRUCTIONS
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(in cases of slight deformity)

Circumference at axilla.

" waist.

" hips.

Length from axilla to great trochanter.

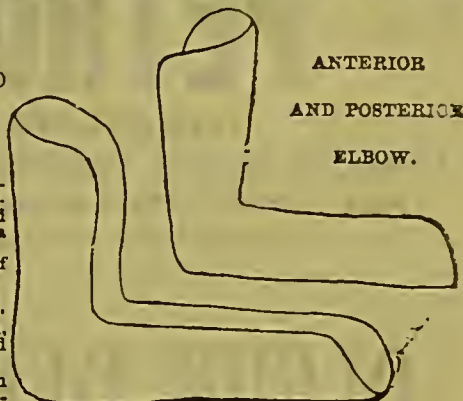
In severe angular cases circumference over apex of curve, position of ditto, and contour should be given; in lateral cases a description of the case.

In all cases it must be stated if for male or female.

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Same measurements required, and circumference at neck, and length from neck to axilla.

Any part of the Jacket can in the process of manufacture be left soft.



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PARIS EXHIBITION, 1889,
GOLD MEDAL

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Absolutely Genuine Paraffinum Molle of the
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Combines in one clear Fluid every valuable
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Guaranteed Non-
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Of all
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Prices:

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Are the PUREST, SAFEST, and BEST that can be used, containing nothing of a deleterious nature. They are strongly recommended by Drs. E. Smith, M.R.C.S., Prof. W. Wilson, M.D., Gordon Stables, M.D., R.N., Geo. H. Jones, D.D.S., F.R.S.L., F.R.M.S., &c., Andrew Wilson, M.D., F.R.S.E., &c., &c., J. Hounsell, F.R.C.S., and many others.

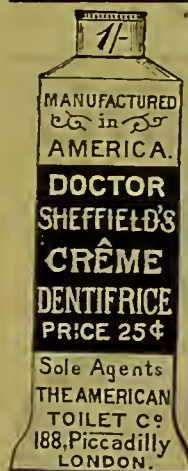
BUNTER'S NERVINE FOR TOOTHACHE, gives permanent relief by Painless constriction of the Nerve in Decayed Teeth, forms a Stopping, arrests Decay, saves Extraction, Sleepless Nights prevented, Neuralgic Headaches and all Nerve Pains relieved. As a NERVE TONIC it gives strength to the nervous system, invigorates the entire frame, affording relief and effecting a cure in many complaints over which the nerves exert control. Invented by G. B. BUNTER, Surgeon Dentist, Maidstone. Price 1s. 1½d. and 2s. 9d.

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EAU DE BOTOT
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	Size	Size	Size
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In round cakes in 2-lb. parcels, or in oblong cakes, loose } in cases of 54 lbs.
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Plain blocks of 7 1/2 lbs. in cases of 250 lbs.

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ARE THE BEST.

On cloth	100	10	6	3 leaves;	1/2	1	5-yard rolls
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	60/	30/	7/	7/	60/ per doz.		
				6 in.	12 in. wide		

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These Plasters are intended to meet the wants of persons of specially sensitive skins, who cannot endure the activity of full strength.

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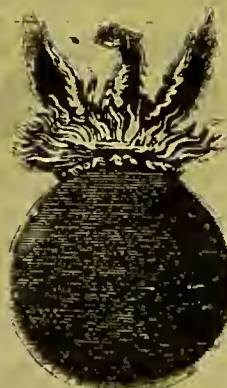
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Reduces lumpy powders,
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FOR HAND OR POWER.

Capacities, from 15 to 300 lbs. at one mixing.

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REDUCED PRICES:—

CLEAR BLUE TINTED, Plain or Graduated—			
3 and 4	6 and 8	12	16 ounces.
7/6	8/6	11/6	16/- per gross.
THE NEW CRYSTAL BLUE TINTED, Handsome Colour & Clear Glass—			
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9/-	10/-	14/-	18/- per gross.

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Cannot open by accident.
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Has no corners.
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Nothing to scratch or tear letters.
Is practically air-tight:—Is used
for Flour, Cherry Blossom,
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Dispenses with string, bags, and
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Saves 19 minutes out of 20.

OVER 300,000 SOLD.

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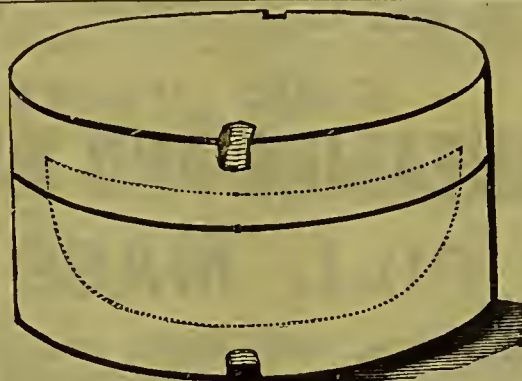
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Are claimed to be the most
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*Owing to the increasing demand
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*These Pots are beautifully
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ORDINARY THICKNESS—

1 dr.	2 dr.	$\frac{1}{2}$	$\frac{1}{4}$	1	$1\frac{1}{2}$	2	3	4	6	ounces.
1/6	1/6	1/8	1/8	1/10	2/	2/3	2/10	3/8	4/8	5/8 per doz.

THIN FOR DISPENSING—

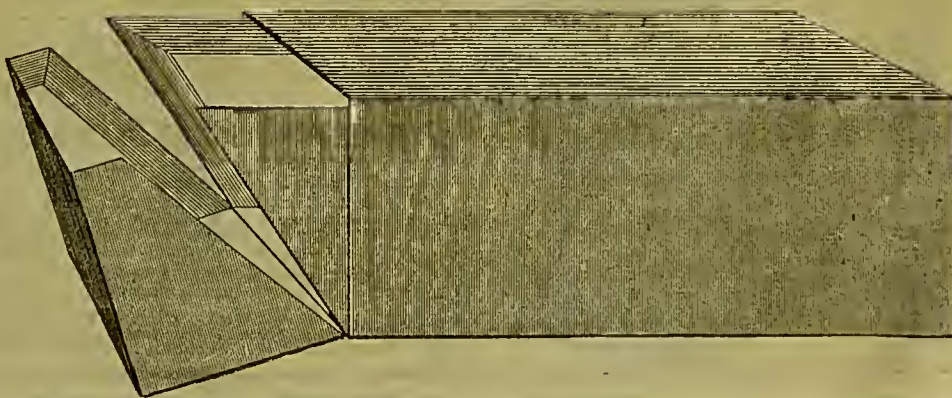
$\frac{1}{2}$	$\frac{1}{4}$	1	$1\frac{1}{2}$	2	3	4	6	8	ounces.
1/7	1/9	2/	2/2	2/5	3/	4/	5/	6/	8/ per doz.

TOOGOOD'S NEW REGISTERED SLIDE BOXES FOR POWDERS, &c.

REGISTERED No. 154,622.

PRICES.

	For 6	12	18	24 Powders
White Enamel	6/9	7/9	8/9	9/9 gross
Purple ...	7/9	8/9	9/9	10/9 „



TOOGOOD'S AIR-TIGHT AND GREASE-PROOF PAPER

FOR PACKING LINSEED MEAL, JUJUBES, &c. Demy size, 6/6 ream.

TOOGOOD'S PATENT BRONCHITIS AIR KETTLE,

51/- per dozen.

SOLE AGENT FOR DR. LEE'S STEAM DRAFT INHALERS.

CARTER'S DISINTEGRATORS

Will Pulverise, Granulate, or Shred almost any Mineral, Vegetable, or Animal Substance.

NEARLY 2,000 IN USE
In all parts of the World.

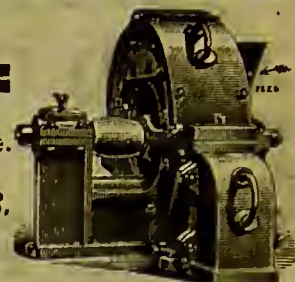
For Grinding Sugar, Bark, Linseed, Ginger, Pepper, Spices, Salt, &c., this Machine is invaluable.
Made in 9 Sizes. Illustrated Catalogue may be obtained on application.

THE BEST MACHINES IN THE MARKET FOR CHEMICAL MANUFACTURERS.

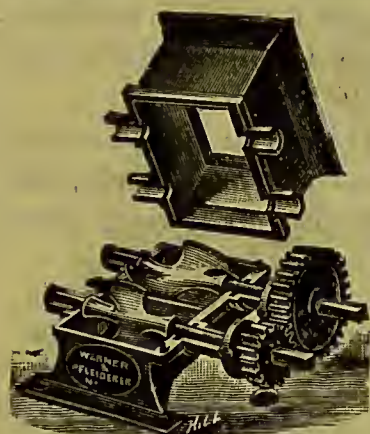
Samples of ANY Material will be Ground free of charge.

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N200



Size 3. Type I. for 1-lb. Mass.

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ALSO FOR

Horse Balls, Tooth Pastes, Ointments, Soaps, Powders, and for
general Mixing and Incorporating.

REPLACES WITH ADVANTAGE ALL OTHER APPLIANCES FOR THESE PURPOSES.

Made in various sizes, to do from $\frac{1}{2}$ lb. up to 1 ton at a time.

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MACHINERY for the MANUFACTURE of PHARMACEUTICAL PREPARATIONS

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Special Mills or Laboratories, Mortar-mills, Sifting-machines, and Grinding-machines. Pill-making Machines, Silvering-machines, Coating-machines, Pill-printing Machines. Sugar-coating Pans. Machines for preparing and for cutting Pill-masses. Machines for manufacturing Lozenges. Machines for making Pearls and Gelatinous Capsules. Laboratory Presses, Mixing-machines, &c.

PILL COATING & PRINTING.

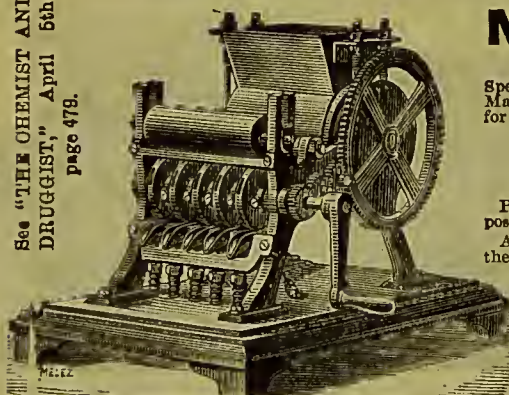
Pill-printing has long been considered a luxury, and remained in the hands of a Paris house, which alone possessed a proper coating process.

As a matter of fact, the coating was the unique difficulty to the extension of the process. This no longer is the case, and we are in a position to offer our clients communication of a means of coating pills. This coating serves as a protection to the substances composing the pills; also, it is absolutely soluble in the gastric juices, and a clear impression is obtained by printing.

The coating effectually protects the pills from alteration from whatever cause, in any climate or temperature. It is less costly than silver or sugar coating.

Thus, by our means, pill and granule printing has become quite practicable. It gives a superior appearance to the goods, besides which the printed inscription has the advantage of advertising the manufacturer's name, or of indicating the nature of the active principle.

See "THE CHEMIST AND DRUGGIST," April 5th, page 478.



NEW PATENT

AIR-TIGHT CHEMIST JAR.

A slight turn of the knob presses the indiarubber Band against the glass, and renders the vessel absolutely air-tight. The Stopper is made of pure Nickel, of handsome shape.

INVALUABLE FOR SHOW BOTTLES, CHEMISTS, CONFECTIONERS, &c.

Samples and Prices of all Chemists' Sundriesmen.

C. MELIN,

37 CRUTCHED FRIARS, MARK LANE, E.C.



Section of the Nickel Stopper when closed.



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Flint Glass Bottle Works,
THE OVAL, CAMBRIDGE HEATH, LONDON, E.

For Beauty, Cheapness, and Efficiency R. H. BARRETT'S

WATCH SMELLING-SALT BOTTLES

EXCEL ALL OTHERS IN THE MARKET.

The Caps are all fitted with INDESTRUCTIBLE WASHERS, to resist the action of Ammonia and retain the strength of the Salts.

Price, assorted white and coloured, 10/6 per gross (in 5-gross lots).

Chemists' and Perfumers' Bottles in great variety, Plain or Stoppered

Telegraphic Address—"FOREFRONT LONDON."

[1]

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A SOUND INVESTMENT.



Each Till has only to display 2d. per week efficiency to return 15 per cent. on outlay.

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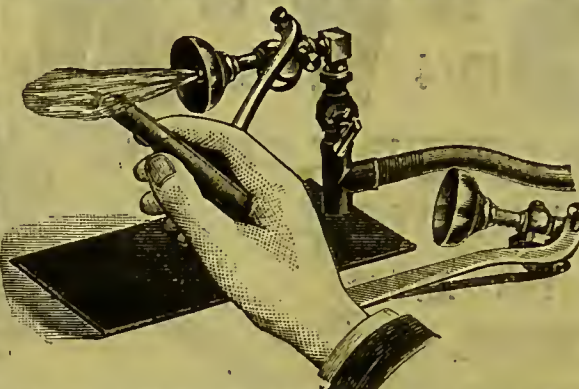
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3 SHILLINGS.

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Adapted by The Apothecaries Hall and leading Chemists, Stationers, and Tobacconists. Great saving in Gas and Labour.



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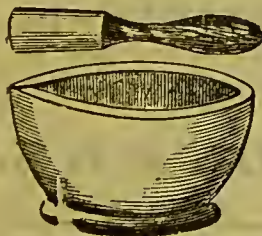
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WEDGWOOD ACID-PROOF MORTARS AND PESTLES.



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[4]

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That our efforts in this direction have been appreciated is proved by the number of *unsolicited* testimonials we have received from nearly every town in the country, of which the following is a specimen:—

GENTLEMEN.—

Please send 5 gall. 56 o.p. as before. I have pleasure in saying I have always found your spirit answer all tests, which is more than I can say of all I have had from different places, and also to be practically free from odour.

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Double Distilled, 56 o.p. 19s. 9d.

CASH WITH ORDER.

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PERFECTLY PURE.

FIT FOR ANY
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Jars, 2-gallon, 2/6; 3-gallon, 3/; 4-gallon, 4/.
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[2]

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